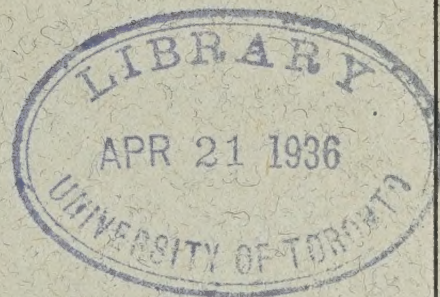


DOMINION OF CANADA
DEPARTMENT OF THE INTERIOR
TOPOGRAPHICAL SURVEYS BRANCH

DESCRIPTION OF SURVEYED LANDS

IN THE

RAILWAY BELT OF
BRITISH COLUMBIA



PART No. 3—COAST DIVISION.

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PART No. 3—COAST DIVISION.

Printed by authority of the Minister of the Interior

JUNE 1915

PREFATORY NOTE.

The information contained in this pamphlet consists of reports and field notes of Dominion Land Surveyors who were sent out by the Interior Department.

The townships are placed in order of ranges, the number of the ranges and townships in heavy figures on the left side.

* * *

The report is published in three parts. The territory comprised in Part No. 1 is the easterly section of the Railway Belt, including the Upper Columbia, Lower Columbia and Shuswap Lake divisions, extending from the boundary of the province of Alberta to the western boundary of range 15, west 6th. Part No. 2 comprises the central portion. Part No. 3 comprises the Coast division.


* * *

The first portion of the pamphlet consists of each surveyor's report on the whole season's work, and general information and description of the district examined. In the last portion the information is given by section, township and range in numerical order, extending south from townships 10 and west from range 23, west 6th meridian, to the west limit of the Railway Belt. In this way individual townships to which it is desired to refer can be readily located in the second portion of the pamphlet.

E. DEVILLE,

Surveyor General.

OTTAWA, June, 1915.



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EXPLANATION AS TO THE RAILWAY BELT.

The Railway Belt is a strip of land forty miles in width following the main line of the Canadian Pacific railway in British Columbia, being twenty miles on each side of the railway from the boundary of the province of Alberta on the east to a line drawn approximately north and south from the city of New Westminster at the Pacific coast. The Railway Belt contains an area of 17,150 square miles, or 10,976,000 acres. It was transferred to the Dominion by the province of British Columbia by provincial statute of 19th December, 1883. (Chapter 14, 47 Victoria.)

This tract of land is a mountainous region and divides itself into five main divisions dominated by topographical conditions, comprising from east to west: (1st) the Upper Columbia division, being the valley of the Columbia river north and south of Golden; (2nd) the Lower Columbia division, being the valley of the Columbia river north and south of Revelstoke; (3rd) the Shuswap Lake division; (4th) the Kamloops division or Dry Belt; and (5th) the Coast or New Westminster division.

Considerable diversity as to climatic, timber and soil conditions, and as to altitude, exists in the different divisions of the Railway Belt; for instance, the rainfall in the Coast division is very heavy, fostering the growth of giant timber. In the next division to the east, the Kamloops division, there is a deficiency of rainfall, and for the most part cultivation without irrigation is impracticable, although within recent years considerable progress has been made by dry-farming methods; the timber conditions are very light, and large tracts of country are utilized for grazing purposes; this division is usually known as the Dry Belt. In the divisions to the east of the Dry Belt rainfall is usually normal, and the entire areas are well forested.

The lands suitable for settlement consist for the most part of the bottom and bench lands along the innumerable valley systems of lakes, rivers and creeks, usually of a high degree of productivity. A very large proportion of the total area is of great altitude, rough or unproductive in character, or suitable only for forest growth.

During the past few years survey parties have been at work in various divisions of the Railway Belt for the purpose of extending surveys and classifying lands which might be deemed suitable for settlement. These reports during the progress of the work were placed in the hands of the Dominion Lands Agents and are now compiled in printed form as far as survey work has proceeded.

Lands in the Railway Belt are administered by the Dominion Government. Water rights in the Railway Belt are under the provincial administration at Victoria, B.C. Considerable areas in the Railway Belt are set apart as Forest reserves and Dominion parks. Settlers or others desiring information should apply to the Dominion Land and Timber Agents at New Westminster, Kamloops and Revelstoke, B.C.

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PART III.

COMPRISING THE COAST OR NEW WESTMINSTER DIVISION OF THE RAILWAY BELT, EXTENDING SOUTH FROM TOWNSHIPS 10 AND WEST FROM RANGE 23 WEST SIXTH MERIDIAN TO THE WEST LIMIT OF THE RAILWAY BELT.

QUEEN'S ISLAND AND ADJACENT ISLANDS AND BARS, SUMAS LAKE, CHEHALIS CREEK, HARRISON LAKE, TROUT LAKE, ETC.

A. W. Johnson, D.L.S., 1903.

SIR,—I have the honour to submit the following report of my operations in New Westminster district during the season of 1903.

A beginning was made in township 3, range 30, west 6th meridian, on Queen's island and the adjacent islands and bars. This is good cottonwood bottom land, but subject to flood during exceptionally high water, and is cut away a good deal every year. New bars are constantly forming, and old ones washing away. On the completion of the work here we canoed down to Sumas lake, which at this time of year (March) is separated from the vegetation on its shores by a mile of mud. The work consisted largely of locating old lot boundaries. These lots were in many instances surveyed thirty years ago, and being wholly under water three or four months every year and a swamp for the remaining eight or nine, have lost nearly all their original corner posts. Occasionally we found an old fence corner, or even a row of old fence posts which evidently stood on the original boundary, but in some cases even these were not available, and I had to depend entirely on the old notes and the topography as shown in them. I spent a great deal of time over this old work in townships 19, 20, 22 and 23, east of the coast meridian, and in many places planted cedar posts eight or ten feet long and ten inches square at corners. I don't think that these will be washed out for many years.

We then moved by water to Harrison river, and after running a few lines and doing some traversing in the northeast part of township 3, range 30, west 6th meridian, started up the Chehalis canyon to get at the north limit of the railway belt. Chehalis creek follows a canyon from the lake to within two miles of its discharge into Harrison river, a distance of some nine miles. In this space it falls considerably over 1,200 feet. The walls are precipitous, often perpendicular, in places 400 feet high, so that it is not easy to get up with a canoe. Our first attempt ended in a broken canoe and a transit under water, but later when the creek was lower we did get up, and ran a stadia traverse to check the section lines run up the valley. The whole district is heavily timbered, and nearly all taken up. As far as I know it is the finest bunch of timber in the railway belt. The fir and cedar often are as much as ten feet in diameter, and I saw one fir that was fifteen. The only land that could be called good lies at the north end of Chehalis lake, but it is quite inaccessible at present for settlers.

In the middle of August we went to Harrison Hot Springs and began a traverse of the east side of Harrison lake, first retracing the southeast quarter of section 13, township 4, range 29, west 6th meridian. The centre of this section was our starting point. I also ran a triangulation up the lake to check the other work. There is some good land on Trout lake in township 4, range 28, but heavily timbered and very hard

to clear. I went as far as the north limit of the railway belt on the east side of the lake, at the north boundary of township 7, and placed section corners and ran what lines I could on the way.

Wet weather put an end to our work here, and on November 1 we left for Mamette lake in the dry belt. We lost an engine in the Fraser canyon on the way up, but were only delayed a day on that account, and got to work on the south limit of the railway belt in township 17, range 21, west 6th meridian, on the 6th. We ran twenty-five miles of the limit before coming in for the winter on December 16.

HARRISON LAKE, SILVER CREEK, BOSTON BAR, ETC.

A. W. Johnson, D.L.S., 1904.

SIR,—Before getting my party together I spent three days finishing up some work on the approach to the south end of the New Westminster railway bridge, and on Musqwam Indian reserve. On April 13 I went up to Chilliwak with a small party and began work a couple of days later on Chilliwak river in lot 439. The north boundary of this lot was in doubt, and it was not until several false starts had been made that we found one of the original posts very rotten, but with bearing trees standing, and it was then a comparatively simple matter to retrace the lines.

On May 5 we moved to Harrison river, thence to Harrison Hot Springs on the 6th.

In my triangulation up the east side of Harrison lake in 1903 I had found a considerable difference between my work and that of the previous survey. My instructions were to run a triangulation up the west side of the lake as a check. So I measured a base at the south end of the lake as carefully as possible with what instruments I had, chaining over levelled stakes at 50 link intervals, on a wet day, and comparing with the standard tape. Stones with lead bolts let into them were sunk at each end of the base. In the triangulation all angles were read right round the circle, left and right, three angles in each triangle and adjusted. The closing base was at the mouth of Silver creek, measured in 1903. This year's length of that base by triangulation differed from the actual measurement by about three tenths of a link, and confirmed my last year's report.

Following instructions I destroyed all the posts of the previous survey and put new ones in at the correct corners. I then established the north limit of the railway belt on the west side of the lake. Unfortunately before quite finishing the work there I cut my foot rather badly with an axe, and though the actual time lost while away getting it sewed up only amounted to a couple of days, the work was necessarily kept back somewhat during the next three or four weeks, as I had to confine myself to traversing on the water's edge and similar places, where crutches could be used.

Toward the end of July, after marking out the belt limit on the east side of the lake and connecting our work at the mouth of Silver creek with the mineral claims there, we began a series of lines up the creek, checked by a traverse, to get at the railway belt in townships 8 and 9, range 29, west of the 6th meridian. On July 29, I was summoned to Kamloops on a purely private affair, and after a couple of days packing in my absence, work ceased, and everything was run at my expense, until August 7, when I got back.

We got at the railway belt again on the east boundary of section 6, township 8, and followed it to the northeast corner of section 29. The last mile rose 3,700 feet from one corner to the other and as the belt limit then led over extremely precipitous country at the foot of the ice on Mount Douglas, I decided to continue the traverse of Silver creek and work up to the belt limit again at a more accessible point.

We had been packing for a month and were now too far from the nearest point to which canoes could be brought to make it worth while to pack in fresh supplies. So taking large packs, we left tents and clothes behind and kept the traverse going while food lasted.

Though I did not consider that there was time to reach the belt by means of a double traverse, every care was taken over the single one, the chaining being done twice by different men.

We touched the limit on the north boundary of section 16, township 9, range 29, west of 6th meridian and again on the east boundaries of sections 19 and 30, in the same township and range.

This was at the foot of a glacier on the north slope of Mount Douglas, an exceedingly rough piece of country.

As sickness and hardship had turned two men back, a couple of weeks before, and the rainy weather was beginning, I put witness posts in and went back to the mouth of Silver creek.

The timber up this creek will not bear comparison with that in the Chehalis valley, but the whole of what there is, is in the railway belt. The district has not been very actively prospected and the only mine being seriously exploited is on Fire mountain in provincial land. Except for a little bench land on the west side of the creek between Clear creek and the mouth and perhaps half a square mile right at the mouth there is no land fit for agriculture. Lower down the lake at 'Twenty Mile' point there is about a square mile altogether of fair land. After leaving this district we ran a traverse and put in two witness posts in sections 18 and 19, township 5, range 28, west of the 6th meridian, near Rainbow falls, and three more witness posts on the south shore of Harrison river in sections 15 and 14, township 4, range 29, west of the 6th meridian.

On October 20, we moved to North Bend and next day camped on Boston Bar.

I began by retracing the north boundary of section 34, township 10, range 26, west of the 6th meridian and producing it across Fraser river. Running south I tied onto lots 1A and 30, group 1, and 8 lots comprising the old townsite of Boston Bar. Section lines were run through these lots and produced as far as Shrypt-ta-hook Indian reserve. In township 11 a few lines were run and posts put in at the intersection of the Canadian Pacific Railway right of way and the legal subdivision lines.

On November 11 I paid off all but two of the men, who were retained to help me in the townsite of Boston Bar, a full party not being necessary. These were paid off on the 18th and I got into Kamloops the same night.

There is some bench land on the west side of the Fraser in sections 34 and 27, township 10, and in sections 11 and 12, township 11, but in general the mountain rises very steeply almost from the railway.

The season of 1904 has been exceptionally fine on this coast, and we did not lose four whole days on account of rain, which is a most unusual thing.

SPIUS CREEK, INDIAN MEADOWS VALLEY, COLDWATER, MURRAY LAKE, SUMMIT CITY, TULAMEEN RIVER, STAVE RIVER, FRASER RIVER, ETC.

A. W. Johnson, D.L.S., 1905.

SIR,—In accordance with your instructions dated March 27, 1905, I left Kamloops with the survey paraphernalia by wagon on April 4, driving through Rockford, Nicola Lake and Coutlee, after sending word to some of my last year's men to meet me at Cleesby's, in Lower Nicola.

We camped at Richardson's, on Spius creek, on the night of the 6th, after one or two minor accidents, such as being badly bogged on the way. This is in township 13, range 23, west of the 6th meridian, and my instructions were to carry on the southern limit of the railway belt towards the international boundary.

Though the weather was hot in Kamloops, there was still a little snow left on Spius creek, and we had snowstorms during the early part of April. There are no

roads in the vicinity, and I picked up a few pack horses as we drove through the Nicola, others being sent up afterwards, until we had a pack train of nine or ten, two of which were, however, used almost exclusively for saddle work.

With such a small number it was necessary to cut down the camping conveniences to an absurdly small amount, and when things were properly adjusted we found ourselves travelling without tents and without stoves. Instead of the former we used one large fly made out of the roof of the cook tent, and all baking was done in gold pans, which make excellent bread, but require a great deal of wood, and at high altitudes where there is no timber beyond scrubby balsam and spruce, this is a distinct drawback. In a trip of this sort, when for months you see nobody but your own party and when you are many miles from the nearest trail or wagon road, success depends to a large extent on your packer. Not only must he be an expert with the diamond hitch, but he must have a very well developed bump of location and that sixth sense which enables a mountain man to find a way that is possible for horses, through what appears to be an utterly impenetrable range of hills.

I was very fortunate in mine. A party of eight or nine is really too small to cope with this class of work even in the district passed through this summer which is on the eastern slope of the mountains and consequently a great deal drier than the real coast country. But 'dry' is only a figure of speech used comparatively. I have not yet seen any long spells of good weather high up in the mountains, either east or west of the watershed, but I may have been unfortunate.

The line ran up Spius creek for a few miles, which is like most mountain streams here. That is to say, you can generally get down to it by hard climbing. Sometimes the sides are perpendicular and you cannot. It is timbered with bull pine and fir in sufficient quantities to warrant a portable mill if the new railway in the Nicola valley creates any local demand for lumber.

The creek would be almost impossible to drive on account of falls. We had some difficulty in getting the horses across when we moved camp as the water was at a high stage, but by putting on very heavy packs, which tend to hold a horse down on his feet, we did eventually get everything over.

A great many coal mines have been staked here, under provincial regulations, the imaginary limit being placed as usual too near the Canadian Pacific Railway, and great things are expected of the coal. Beyond boring in several cases nothing has come of it yet.

When moving camp, I used to send two or three or more men to help the packers and go on line with what were left. It is the only way to get anything done when you move on an average of twice a week, for although you may have only one axeman and a chainman, you may make half a mile. It is just here that a good packer comes in, one who will be found at night where you told him to go, a rare accomplishment in heavily timbered mountains, and it was not until after one or two disasters that I found the right man.

In one place we were man-packing over a ridge with a flying camp. One of the party wandered out of camp on Sunday morning, and did not come back. He very soon got lost, but fortunately met one of the packers looking for a stray horse, and went back to their camp. The next day they all tried to find me and signally failed, being scattered from the Coldwater to Spius creek. At any rate we had to hunt them up next day, which is not part of the duty attached to a flying camp on line.

An April 30, Mr. Mackie joined me from Ottawa, as assistant.

At first I ran a traverse to check the section lines of the belt limit, but in rough heavily timbered country, this is altogether too laborious an operation, and I did not continue further than the valley known as the Indian Meadows, in township 12. It is a much better plan to leave signals at known places which may be read for miles, and a check thus calculated. This does not apply when the limit runs for a long distance on one azimuth. This valley marks the southern limit of the open, park-like, bull pine country which is such a feature of the Kamloops, Nicola and Okanagan districts, *i.e.*, of the dry belt proper.

To the south you get into a wetter climate with thick balsam and some pine up to an altitude of 5,000 feet. In the southerly part of township 11 and the northerly part of 10, the line was so high that we had to contend with 3 or 4 feet of old snow. This was altogether too much for the horses and we had to resort to the time-honoured but detested man-pack, for a couple of weeks.

In my experience, and it has not been slight in this respect, this is the final test of a good man on survey. Especially so on snow that will carry you for a few yards and then give way suddenly. Men who will cheerfully stand any amount of chopping or climbing will go all to pieces in the matter of temper with sixty pounds of sugar or blankets on their backs, and it saves a lot of trouble if the surveyor in charge is either a long way ahead or a long way behind.

While on this hill 18 inches of snow fell. The weather moderated before we got down to where the line crosses the Coldwater, though the snow had made the river almost impassable for horses, and many of us had more or less of a ducking before everything was brought over. Two of the party had left a week or two before theoretically on account of sickness, but mainly, I fancy, because the snow ahead looked uninviting. It has always been a matter for wonder to me how the idea has become so well established that a survey is a pleasant summer picnic under canvas. Time and again I have warned men that a particular trip would be tough. The answer is always the same, that if you can stand it they guess they can. It does not always follow, as in this instance, when, after being upset in the Coldwater, and soaked to the skin during a couple of days climbing in wet huckleberry bushes, the two men I had got, left, with the most uncomplimentary opinion of Dominion surveys that I have ever heard.

The Coldwater is perhaps a hundred feet wide here, and not as rapid as many British Columbia streams, and I think could be driven without much difficulty at high water. There is a good deal of timber in townships 10 and 9, especially near July creek, which will be valuable when a railway comes in. This is a probability in the near future, as the only low pass from the Princeton part of the country is down a creek which comes into the Coldwater from the Otter valley, about on a level with the centre of township 10. It is proposed to build up the Coldwater into the Coquihalla canyon, and so to Hope. By all accounts this is the most feasible route through the mountains. Between the point at which the line crosses the Coldwater and the source of the Coquihalla there are narrow strips of bench land that might be cultivated if a railway is built up the valley, but beyond this there is in my opinion no arable land. The Coldwater is very much staked for coal, though mainly in provincial territory.

At the headwaters of Spius creek is a lake nearly 2 miles long, which I have named Murray lake, as a man of that name tried to make a home on its shores. There is a large open meadow which looks as though it would grow a great deal of hay, but I believe the snow stays so late in the spring that as a matter of fact nothing grows well. At any rate it has been abandoned, and the cabin is used only by an occasional Indian hunter or trapper.

The line runs parallel with a range of mountains of six or seven thousand feet, with many rocks and precipices, but at a distance of some three or four miles, so that it is really in the foothills of these mountains and does not rise to a greater altitude than 5,000, until it gets down to township 5. The hills are not precipitous, but consist of long steep slopes, for the most part covered with scrubby balsam and dense huckleberry undergrowth, though in places there are miles of dead standing trees. A heavy wind would make this country very difficult for a pack train. Both the blue and ruffed grouse are numerous, and there are some foolhens. Deer are more plentiful than in any place I know of in the interior, and were it not for the law-abiding qualities so well known in a government survey we should have had plenty of fresh meat. We were sorely tempted. There are also bears, both black and grizzly, though we did not get better evidence of the latter than through footprints as large as a ham.

Running south from the Coldwater we came into a country with no trails of any description, and the pack train was dragged through with the line. Fortunately there

was at first a large area of dead standing timber with comparatively good footing and not very much undergrowth. We again got into snow, but the summer was so far advanced that we could avoid the deepest. The hills get higher and steeper, and the timber scrubbier, where there is any, as along the streams, but from the Coldwater to the south fork of the Tulameen, the tops of the hills are nearly all burnt.

Working down into townships 8 and 7, we reached the mineral country. In places where one would think no white man had ever been we came across location stakes. Twenty years ago there was quite a boom at Granite creek, and it was this excitement that produced the Similkameen trail, the only good pack trail connecting the interior with the coast south of the Fraser. Every summer there are parties of prospectors out in this district, though personally I saw only one man in four months, and he was on a rock slide a mile away. Most of this mineral is copper in various forms, exploited for the most part round Princeton and Granite creek, but found in the railway belt too. The only active work being done in the belt is at 'Summit City.' This is a galena proposition, and is considered rich, but it will take more than my power of demonstration to persuade the owners that they are not on provincial land. They had walked in so often from Hope that they were absolutely certain that my work was wrong, "and it's impossible to use a theodolite in the mountains anyhow because of the slope." After that, of course, it was useless to argue.

"Summit City," however, is not as large a place as its name might suggest. In the height of summer its population may be on occasion six men; in winter there is no population whatever, and only a cabin or two and an all-enveloping snowdrift mark the spot. Transport is of course what all these places want. Ore that has to be packed on horses forty miles before shipping must be extraordinarily rich to pay. Wagon roads in the mountains cost almost as much as railways anywhere else, and railway companies regard British Columbia as a huge barrier before their trade with the east, one which must be overcome as cheaply as possible with as few diversions as may be on the way.

It is not easy to form any definite idea as to the real value of a mineralized country. There is plenty of mineral here on the surface; whether the mineral will be in paying quantities under the surface requires proof, that is to say, capital, and capital appears rather shy of this district. You cannot learn much from ordinary prospectors, because most of them were swinging an axe only a year or two ago, and cannot go much further in their description than the repetition of a few catch names like peacock copper, copper pyrites and quartz ore. When you do meet a mining expert you cannot help thinking of the western description of him in which he figures so prominently in the superlative degree. All mining centres believe that they have a bonanza. One or two out of a thousand have; the others have not; so it is quite possible "Summit City" is a big thing.

We get nearer the high mountains all the time as we work south, and after leaving the south fork of the Tulameen the timber is green again and a good deal heavier. On this river we were troubled a great deal by thunder storms. A perfect morning without a cloud, and before night heavy thunder and deluges of rain. Speaking of British Columbia, there is nothing that a surveyor fears so much as rain. If he were in a cleared country rain would make little difference one way or the other as long as he could see through the transit. But in these mountains, with their dense undergrowth, a shower of rain means being as wet in ten minutes as if he had been swimming. Note books, watches, and everything else he carries get the same treatment. It is no uncommon thing to see men hanging cheap watches in the sun to dry out after dipping their works in the coal oil can. Some of them bake them in the stove instead of waiting indefinitely for the sun, which is very much surer. And if you are high up the rain is intensely cold, and is by long odds the greatest hardship here. Nor is it possible to lie off for all wet days. If you did there would be weeks at a stretch when no work would be done at all.

We crossed the watershed near the south boundary of township 4, range 23, when we found the old canyon trail. This is from all accounts an easier pack trail than the

Similkameen, but is out of repair and very rarely used. This point is on a clearly defined line between upper country and coast climates. On the east are balsam and brulé, high steep hills up to five or six thousand feet, gradually getting lower towards the Similkameen; on the west, eight thousand foot mountains with huge precipices, cedar, fir and vine maple in the valleys. More important to us, on the east is feed for the horses anywhere; on the west only in widely scattered swamps or along the shores of small lakes. When we got as far as horse feed lasted, which was on a small pond between Mount Hopeless and Sumas, I moved down to Hope, leaving the tie for next season.

April, May and June were wetter than I have ever seen them in this part of the country, but we had fine weather in July, except for the thunder storms already mentioned.

As an agricultural country the district we traversed may be described as a failure, a very distinct failure. There is not enough timber to warrant its being taken out yet. When the mines are working much of it will be used by them, and will be handled by portable mills. On the other hand the climate is bracing and not too wet; the scenery is gorgeous, peak after peak as far as you can see on the west and rounded hills for sixty miles to the east. If this was a Canadian Pacific railway guidebook this district would be called a sportsman's paradise. Never having been in a sportsman's paradise I cannot tell, but deer are numerous, black bear are not uncommon, and grizzly bear can be found also. I have no doubt there are goats in the high rocks, but we were not near enough to come across them. There are plenty of grouse. But it is on minerals that the future depends.

On August 15 we canoed down the Fraser to Sumas mountain, in township 19, east of the coast meridian, where I ran some new lines and retraced some old ones. There is good land over a large part of this mountain, and it is not hard to clear, but the heavy grades on the wagon roads make it rather unattractive to settlers.

We moved down to Stave river on September 12, ran and retraced a few lines and traversed parts of both banks of the river and islands in it. The weather, which had been bad at Sumas, settled down to almost incessant rain, day and night, with hardly any intermission, and this continued while we were at Bedwell Bay, in fractional township west of township 39, west of the coast meridian. The work here was of the same character as at the last two places. Some traversing, a few lines, retracing some old ones and tying on to group lots whose corners were lost. It rained practically all the time, and at last I wired to the Surveyor General for permission to move up to the dry belt. This being accorded, we began work in township 15 range 27, west of the coast meridian, on October 13.

Besides straightening up some old group lots on the west side of the Fraser I ran a traverse of the Fraser, with a skeleton of section lines to the railway belt limit at the north boundary of township 18, range 28, west of the 6th meridian. There are benches on the east side of the river which with water could be cultivated, but I believe settlers already on the ground find it difficult to get as much as they need. On the west side of the Fraser the mountains rise very abruptly, and what benches are on that side have been taken as Indian reserves or by Indians living off the reserves. There is some pine timber, but not any large amount, and one hydraulic concern besides a dredge which while we were in the neighbourhood was not working, though I believe it has since done so.

After retracing the boundaries of lot 13, group 1, in township 15, range 25, west of the coast meridian, and doing more work on lots 1 and 2, group 1, and lot 359, I paid off all hands and went up to Kamloops for the winter on December 13.

HOPE TOWNSITE, SIMILKAMEEN TRAIL, SILVERTIP MT., KLESILKWA VALLEY, CHILLIWAK LAKE, ETC.

A. W. Johnson, D.L.S., 1906.

SIR,—Having sent instructions to some of the men to meet me at Lytton, I left Kamloops on February 19 for the Nicola.

My last year's aneroid elevations on the railway belt did not check out well, and I wanted to get a reliable height for my starting point on Spius creek. As a railway has been built up the Nicola valley since I was there, this was easily got, and I went on to Lytton, where Mr. Irwin, the Indian agent at Kamloops, was waiting for me. He wished to find the position of certain improvements near Indian reserve No. 27. Mr. McKenzie, agent of Dominion lands, of New Westminster, came up a day or two later, and he helped me with the final adjustment of lots 1460, 359, 1 and 2. The last two had been surveyed in the Caribou days, but all monuments were gone, and I had to survey them again, conforming as much as possible to the old notes and sketches. In my opinion it is a great mistake to use wooden posts at all, whether at quarter-section corners or any other. Even a cedar post will not last more than forty years though left absolutely undisturbed, and they will not stand much knocking about after twenty. I would also suggest that the iron posts supplied should be of better quality. Some of these I have had this year were so rotten that a man could break them with his hands. The ideal monument for British Columbia is a stout iron post and a pile of heavy stones.

Pits can be traced for perhaps ten years if they happen to be dug on the level and left quite undisturbed by stock, whereas a stone mound of regulation size, especially if made of large stones, is practically everlasting, and I have never seen one so much disturbed in this province, even by stock, that there was any difficulty in identifying it.

On the 27th most of the party went to Hope, while I went up the Fraser with one man to put iron posts in at some of the section corners near the railway belt limit, my supply having run out during the previous fall. This took a couple of days, and we then followed to Hope.

In 1902, I made a preliminary survey of this townsite, and left iron piping at some of the main street intersections. The place was surveyed originally in 1861 by the Sappers and Miners who built the Caribou road, and wooden posts were put in. Nobody knew of the existence of any of these original marks, and though I worked for months in the townsite it was not until the survey was almost complete that I succeeded in finding one. It tallied very closely indeed with my own work, which was based on old fence lines and such old buildings as were reported to stand on lot lines. As there are two or three people in Hope who have been in the town since 1860, I was able to get fairly good evidence, though no really authentic starting points. The Hudson's Bay company once cleared practically the whole townsite to grow feed for their pack trains, but it has been allowed to grow up again, and is now covered with dense bush except where the few houses are.

It is patiently waiting for a railway, with the advent of which a tourist traffic is certain to spring up, for a pleasanter spot for a summer holiday could not well be found. There is splendid trout fishing close to the village, mountain climbing 'ad nauseam,' and big game shooting for those who like to take the risk of climbing round giddy corners after goat, or the trouble of forcing their way through the interminable vine maple and huckleberry brush to the high open slides, every one of which is the feeding ground and exclusive property of some bear.

Besides making the resurvey of the townsite itself, I put monuments in at several of the corners of surrounding lots, and as far as possible made the survey between Hope and Silver creek rigid. I have spent a great deal of time in and near Hope, and have had the invaluable assistance of Mr. McKenzie in every way he could afford it, and I feel convinced that with the proper data available, and bearing in mind that all landowners who have seen the survey are satisfied, it would be a waste of time and money to go over the work again.

On April 16, we went down to Sumas lake by canoe. While here I made a correction in my resurveys of lots 225 and 226, and as soon as possible returned to Hope, picking up a few horses on the way. I also sent to Nicola for ten horses by a man who was buying some there for himself, and began a traverse of the Similkameen trail before they arrived. On the way up this trail we ran a couple of section lines at what is known as Lake House, or Beaver Lake, and after reaching the limit of the railway belt ran along it as far as my last post in 1905. My tie came out exceedingly well to all appearances, but I found afterwards that there were two mistakes, equal and with opposite signs that neutralized each other, one on the traverse up the Similkameen trail, the other somewhere on the railway belt limit of last year. Therefore in September I came back and re-ran this part of the limit. From the Similkameen trail southward the belt limit takes to the mountains in earnest. The first half mile leads up a two thousand feet precipice, and when we moved camp the only possible place to get up the mountain was two or three miles down Skagit river. We camped three thousand feet above the valley, arriving in small and very much scattered detachments, with in many cases much smaller packs than were gaily strapped on in the last camp. As tents were among the things thrown away, it was unfortunate that it should rain that night, and there were some very unhappy men around the bacon and beans next morning.

The mountains are so precipitous here that I had to do a good deal of triangulating. Up to a height of 5,000 feet above the sea they are covered with dense balsam forests, but the wood is soft and full of knots. Up to 6,000 feet there may be odd clumps of dwarf balsam or juniper bushes, but I think that six thousand five hundred may be considered extreme timber line. There is practically nothing after six thousand.

The railway belt limit keeps very high, in fact, runs over the top of Marmot mountain nearly seven thousand one hundred feet high. It goes down into thick balsam again along the north boundary of township 2, which is parallel to Marmot creek, and then gradually works up on to Silvertip mountain, which is the highest and most imposing mountain north of the international boundary in this district. According to my aneroid, checked by vertical angles read by transit on other known elevations, it is eight thousand seven hundred feet above the sea. The north side is inaccessible and two small glaciers are perched in the only place level enough to stay on. When I say inaccessible I mean from the ordinary human being's standpoint, not from that of a full-fledged member of the Canadian Alpine Club. I have tried it from that side with an Indian, who had a marvellous head for heights. We persevered until we found ourselves sitting on a knife edge with nothing at all on three sides of us. As far as we could see nothing but a balloon would take us up to the top. When you came to think of it an air-ship is the solution of the surveying problem in British Columbia. You could work for miles round one permanent camp and above all things there would be no packing. The south slope of the mountain is comparatively easy, and the view from the top, magnificent, but you wonder where the land is. For a hundred miles in all directions there seems to be nothing but rock and ice. The slides below the glaciers are very steep and covered with dense vine maple and cypress so dense that it was very difficult indeed to force your way through with a pack. We took our bundles straight across one of these slides and tackled the opposite ridge. Unfortunately we struck it at a very bad place and the brush was so thick that we could not see anything ahead. This was the worst pack I have ever had. The climb itself was insignificant, some 1,800 feet or so, but with sixty pounds on your back you have difficulty in negotiating corners that are comparatively easy when travelling light. Twice we had to unload, climb into positions over one another's heads and with infinite care pass the packs up from man to man. Most of us did at last get up, but two of the stragglers did not turn up till night, and one man only got in next morning. Naturally enough he was the cook. When we got off Silvertip we were in the valley of Klesilkwa, which is separated from Silver creek valley by a low pass, about two thousand feet above sea level. I took the belt limit across this valley and ran parallel again for three miles

along a mountain composed of solid granite. There are two miles of old rock slides with huge granite boulders, from the size of one's head to that of a house, requiring only a little dynamite to furnish the finest building stone I have ever seen. There are hundreds of thousands of tons of it that do not even require quarrying.

The Klesilkwa side of the pass is level and very swampy. It averages half a mile in width and there is land enough for some settlement when the timber has been taken out. This is mainly cedar and hemlock.

On the Silver creek side of the divide the valley narrows down and is not more than a quarter of a mile wide in most places. There is fir here besides cedar and hemlock, but not much land.

I ran a series of section lines down this valley as far as Silver lake, and connected with Hope by triangles over Hope mountain. I made this survey because there was an application for land at the south end of Silver lake, for the purpose of raising cattle. I do not think I have seen anywhere in the world a more unsuitable or hopeless place for raising cattle in. Dense crab apple and willow thickets grow immediately around the lake at its south end, alder and cottonwood along the creek, and the rest of the valley is covered with the densest growth of cedar, fir and hemlock. There is not a stalk of natural food and no range on the mountains which are precipitous, and only suitable for mountain goat.

When I tied on to Hope I found a mistake which was located during the following week, and I left Mr. Weld with a small party to make necessary corrections. I should not like to send this report in without saying that Mr. Weld was a very great help to me this year. We had a difficult party to handle, and the position of assistant is not at all a pleasant one. In spite of these facts he finished the corrections on time, and I doubt whether many men under the same circumstances would have finished them at all. While these corrections were being made I took the rest of the party and worked over the two ranges separating Klesilkwa creek from Chilliwak lake.

The first of these ridges is slightly over 7,000 feet and the second not much more than 6,000. Both of them were covered with huckleberries and blueberries and as a result bears were very numerous, especially as the above berries are a failure in other parts of the province. These bears were a real hindrance to the work, for the Indians would not go away alone without a rifle, and in one case refused to cross a valley at all. I laughed at them for a long time and occasionally went ahead myself to show them that their fears were groundless. However, one night while coming down a mountain side to supper with one of the Indians, we ran across a big bald-faced she-bear and cub. They were directly in our way; so I shouted to scare them off. It did not have the desired effect at all for the old bear immediately turned and charged. I think we both had pocket knives, but they did not seem very comforting so we fled. She may not have come very far, we did not stop to see, but she did not catch us. I think it is better to let bald-faces and grizzlies severely alone if you are unarmed.

There are goats on the highest ridges and plenty of marmots or whistlers as they are called here. The Indians call them the whistle pig.

The descent into Chilliwak lake was down very steep smooth rock at first, so steep that it was out of the question to put the section corner in.

We joined the pack train on the lake at Depot creek on August 11. The packers had just finished building a canoe for our use while there. Here also was a party working on the international boundary. For a week I worked from this camp, and then packed clear to the top of the ridge on the west side of the lake.

The belt limit went over some very bad country west of the lake before reaching the first ridge, country comprising ravines, rocks, precipices and, slowest of all 35° slopes covered with dense balsam. Once out of the timber I put most of the work in by triangulation, because most of it lay over inaccessible rock.

On August 24 I got down to the international boundary, and measured westwards by means of triangles. The bases were exceedingly short, but I took great care with the angles and on the 28th tied on to a post I set four years ago.

There was little or no game on the ranges west of Chilliwak lake. There appeared to be no feed. There is no agricultural land between Silver creek and the international boundary, except a little on Chilliwak river and at the south end of the lake. A little good cedar and fir may be found around the lake, but the great bulk of the timber is knotty balsam, which as far as I know is no good for anything but firewood and second rate pulp.

Minerals are worked to some extent both in Slesse creek and Middle creek and rumours are heard from time to time of big veins between Skagit river and Chilliwak lake. It is probable that at no very distant date the lake will be a summer resort. The fishing is very good, the scenery of course gorgeous and there is nearly always a sailing breeze.

It would be easy to build a good wagon road up to the lake which then could easily be reached in a day from the town of Chilliwak.

On September 10 we began work on the correction of the railway belt limit from the northeast corner of section 13, township 3, range 23, to the last post I put in last season. It rained a great deal while we were here and the country was very rough indeed, so rough that we had some very uncomfortable moments chaining. A mile on a map looks such a short distance and so easy to chain that people who have not scrambled painfully up a rock with a chain tied to their belt with a long hard drop coming if they let go cannot realize what an enormous distance a mile sometimes is on the ground.

From Hope I sent two men back to Kamloops with the twenty horses that comprised the pack-train. They will do better in the upper country than at Sumas where they were last winter. At least they cannot possibly come out thinner in the spring. I was fortunate in my two packers. I doubt whether they could be beaten in British Columbia. One of them I left in charge of the base all summer. It was his duty to see that everything I needed was moved forward into valleys that the belt limit crossed. This left me at liberty to push the flying camp forward on line, because I was always morally certain that when I dropped down for supplies I should find him in the desired spot.

Before leaving this district I ran the boundaries of lots 5 and 6, near Hope, which were in doubt, and on the 22nd moved down to Agassiz by canoe. After a couple of days work in section 28, township 3, range 28, I got word that some work at Sumas was very urgent and I moved down at once by canoe to the south end of Sumas lake in township 19, east of the coast meridian. Nearly all the land around this lake was surveyed thirty or more years ago, and as it is covered every year by water, the old monuments have in most cases disappeared long ago, so that it is extremely difficult to do anything with it, but I think that what few corners I did re-establish are as near their original positions as is possible to put them now. While here I did some work of the same nature on the upper Sumas Indian reserve and on lot 227, group 2. I also made a small traverse in section 13, township 20, east of coast meridian.

On October 11, I went up to Lytton with Mr. Weld and one man. We did a few days work here on lots 1 and 2 and in section 35, township 14, range 27, west of the coast meridian and then I took a couple of weeks holidays, partly for my own ends (I wanted a grizzly and got one) and partly to get some idea of how to tackle the country between Harrison lake and the Fraser, where I shall be next season.

On November 6 I went down to Agassiz again and next day continued the work on islands in the Fraser that I had left when asked to go to Sumas. Besides this there was a good deal to do around the village itself on lots 49, 19, 10, &c. In this I had the assistance for a day or two of Mr. McKenzie, who knows a great deal more about the land in the New Westminster district than anybody else and we were able to do a good deal of resurvey work. I tried to find posts in section 5, township 4, range 28 up Maria slough, but was unsuccessful, so I wrote for the old field notes and paid the men off for the season, getting back to Kamloops on December 4.

The season has been in many ways remarkable. While at Hope, in March and

April, the weather was glorious, which is unusual at this time of year. May and June were wet, but July, August and the first part of September were finer than anything I have seen in this district. Had it been otherwise the work would have been much more unpleasant even than it was. We seldom used tents, but slept out under the stars, and the fine weather enabled us to carry fewer clothes than usual, which is a great point when packing. If I had not had a nucleus of men who had been with me for years and who did not like to see me left in a hole, I should probably have finished the work with Mr. Weld and a party of two. As it was we left Hope seventeen strong and came off the international boundary with nine. Some had cut themselves, some were ill, but most were sick of packing. We had three months mountain packing with little intermission, moving camp on an average three times a week, and men will not do it if anything else at all is to be had. It did not improve matters when we got down to the south end of Chilliwak lake and found men on the point of leaving the boundary survey because there had been no fresh vegetables for three whole days. We had potatoes twice in three months.

The fall was wetter even than that of last year, which is saying a great deal, and we had several days when it was out of the question to do any work at all.

AGASSIZ VALLEY, PITT MEADOWS, NAHATLATCH VALLEY, SILVER CREEK, ETC.

A. W. Johnson, D.L.S., 1907.

SIR,—I began the season's work at Agassiz on February 15, by resurveying lots 536 and 39, group 1, and the adjacent land.

As usual many of the original posts were missing, and I had to reconstruct these lots from what data was to be found on the ground.

There is good hill land in section 6 township 4, range 28, west of the 6th meridian and in the section immediately south of that, which, though on a hill, is very easily cleared, there being only a comparatively recent growth of alder and birch. We were so much hampered by 3 feet of compact snow that I ordered snowshoes for the party. There is no prettier place on the Canadian Pacific railway than the Agassiz valley, with its soft, moist climate. Fruit, hay and hops grow very well and the last named is being cultivated to a large extent. To a northwest farmer, who wants a softer climate and a beautiful home this land should appeal.

I had received instructions to survey some dyking lands on Pitt meadows as soon as possible, and judging that the snow would have gone I moved to Sturgeon slough on March 5, in township 10, east of the coast meridian. The whole of the undyked part of Pitt meadows is a swamp, cut up by many sloughs. I got rubber boots for the men, otherwise it would have been killing work breaking through ice and wading in cold water up to your middle for weeks. This swamp was evidently at one time part of Pitt lake, and the sloughs which cut it up are affected by the tide as is the lake itself. We had more luck finding old posts than I expected, and I have no doubt that the survey we made very nearly coincides with the original. In some cases we put long cedar posts as well as iron ones to mark corners, for the latter were sometimes below the water at high-tide. There is undoubtedly splendid land on these meadows.

The main difficulty in dyking here is, I should judge, to keep the water from seeping under the dyke. As to whether it is feasible from a business point of view I am not expert enough to give an opinion. There is someone intending to do this particular piece of work and he is probably not doing it for fun. The lake is so shallow at the south end that if dyking turns out a success I believe it can be extended in to the lake itself. As you paddle up, even in the middle, you can touch bottom with your paddle for 2 miles.

We were troubled a great deal by wet weather at the end of March and the beginning of April. For two weeks it hardly ever stopped raining and we were thankful not to be in the bush.

In the middle of April I went on with the traverse of Pitt lake itself. The west shore is very precipitous, the rock dropping into the water in perpendicular bluffs in many places and giving us endless trouble with the chaining and especially when planting posts at section corners or witness posts. It was not an uncommon thing to spend three hours getting a correct measurement to a point where a post could stand without the men being in imminent danger of falling off. When men are thinking more of their foothold and the rocks a hundred feet below, than of the stones they are painfully picking out of the cliff for a mound the work is not done quickly. And the fact that the chief is wondering whether the transit, already much battered, will slip over that particular edge or not, does not help matters out.

While this traverse and others on the meadows were being cut I ran a triangulation up to the head of the lake from a base on the long tangent on the Canadian Pacific railway, immediately east of Pitt river bridge. This was done with considerable accuracy, though I was bothered by funny trippers from Vancouver throwing away the large red and white signals that were conspicuous on rocks close to the water. At any rate I have no doubt that the section corners laid out around the lake and the belt limit are much more accurately placed than would have been the case had the work been carried up from the south end of Pitt meadows by traverse.

There is one way on the west side at the mouth of the small valley that offers a splendid landing for picnic parties and there is good timber up that valley.

In township 6, on the west shore are some benches with good timber which are being worked and on the east shore in the same township are similar benches, also being worked. The east shore is generally not so rough as the west, though there are two or three inaccessible cliffs that I had to climb around or work across by triangulation.

Other work was pressing so I did not traverse much more than half the lake, but went on to the north end, laid out my second base, and ran a mile or two of the actual belt limit on both sides of the water, so that timber cruisers would have no difficulty in finding it.

The mountains around the lake are not particularly high as mountains go in British Columbia, not more than 5 or 6 thousand feet, but they are very precipitous, one bare precipice piled on another as far as you can see. But at every creek mouth and on benches at other places there is good timber and a large number of logs have already been taken out to New Westminster.

On my way to Keefers in the upper country I did two days' work at the quarry on Pitt river about which there is some dispute, and on May 27, began work at Keefers. Here I laid out as accurate a base as I could with the appliances I had, on the Canadian Pacific railway track and connected this with the nearest section corner. While I was doing this my picketman was putting up signals on both sides of the Fraser, for it was impracticable to get out of the canyon without crossing the river. Then as soon as I began to read angles I sent this man with a small party up the Nahatlatch river to plant signals on convenient peaks and to put his last two as nearly 20 miles back from the railway as he could.

It is all to his credit, and saved me much time that the actual railway belt passed about midway between his last stations which I made my second base. A surveyor will appreciate a feat of this sort. He had to canoe and pack on his back through forest without the vestige of a trail and pick out his peaks as he could catch glimpses of them through the trees or from the water and it is no exaggeration to say that had he been a couple of miles out it would have meant four or five days' extra work.

The weather went to pieces in June just as I began reading angles and on Two Squares' mountain I was held for ten days without a tent and with very little food, waiting on timber line for the clouds to lift. Every day we climbed the 200 feet

between camp and the signal and shivered around a poor fire in a gale of wind as the snow fell. After this, however, I luckily got all my other angles without difficulty, and was glad to make a close tie on my second base. Nahatlatch valley has very little if any agricultural land, but there is timber in small quantities, east of the lake and on the lake itself. West of the lake the valley is wider, up to nearly a mile, but though there is timber there, it is not in large quantities nor of good quality. From the lake to the Fraser the river is just a roaring rapid, large enough at the lowest water to develop tremendous power, for the drop is several hundred feet. The lake is not one sheet of water, but three, joined together by strips of quiet river and very beautiful. I expect that some day there will be a flourishing summer hotel on its shores and some enterprising man will build pack trails up to the basin on mount Whiskeepig where one of the finest falls I have ever seen takes its rise.

These valleys on the edge of the timber must be seen to be fully appreciated and in spite of the punishment they get climbing through dense huckleberry or young balsam and windfall, there are few men, however unromantic, who do not forget their troubles when camp is pitched in the park country under the ice.

After tying on to my second base I ran the belt down to Mt. Douglas near Harrison lake where I had planted a post in 1903. This was not more than 15 miles in a straight line from the Nahatlatch, but it was not advisable to spend weeks making a horse-trail and we carried everything on our backs. To those who have packed steadily for a month over high mountains any description is superfluous and to those who have not, no words of mine could make them realize what it is like. I believe some of the men had a change of socks, but there was little other changing done, in most cases none at all, and one man left because I would not let him carry as many blankets as he wanted. The line zigzagged over mount Whiskeepig and finally ran straight for 6 miles to Mt. Douglas crossing three deep canyons on the way. As soon as we had packed with great tribulation up one 3,000-foot precipice we found a 3,000-foot hole beckoning us insistently. But at last in a thunderstorm under the ice of Mt. Douglas glaciers, a thunderstorm so strenuous that we fled into the snow and threw away anything that had iron on it, we tied on.

There is good timber on Silver creek which rises near Mt. Whiskeepig, and keeps a distance of from 1 to 3 miles east of the belt along its entire course to Harrison lake; and though this creek is very rough and has two or three big falls, the timber will no doubt be taken out before long. It is all in the belt.

I did not post every section corner of this last 6 miles. Putting lines up those precipices is very slow work even when it is possible and it was not by any means always so in this case. Putting posts in on a very steep slope of rock is slower work still. So I put witness iron posts and also large wooden ones on the ridges and by the sides of streams in the canyons. As it is not likely that anybody but timber cruisers and prospectors, except surveyors furnished with the necessary data, will want to find the belt here, the above method will be sufficient, for prospectors will travel on the ridges, and cruisers in the valleys.

There is the usual wildness of peaks with glaciers here and there. Mt. Whiskeepig is about seven thousand feet high, but the Snowy Group to the west and southwest is higher.

On my way back I ran the belt across the Nahatlatch valley. At the western end of this valley adjoining the belt, the land is very low and swampy. There are three hay swamps which are solid enough to carry a horse and were the saving of our train, but they would not grow crops because both in the summer when the snowwater comes, and more particularly in a winter rainstorm, they are flooded.

When I had posted the belt in the Nahatlatch valley I put most of my men to work making a pack trail up Bear creek, which is just outside the belt, while with three men I went north to Mt. Kytte to see what could be done about getting horses through. I found an unbroken range of high mountains, the lowest pass filled with glaciers, and I determined that should it be found impracticable to take horses over this ice that I would send them around by a hunting trail above Lytton, that I had

used the previous winter on a trip partly for hunting and partly to find out the best way to get horses into the belt in that part of the country. I took care to impress on the men with me exactly which of the distant mountains were approximately on the belt and then came back to camp after a rough trip indeed. I gave instructions to push the trail to the foot of the ice and to try to get the horses over; but this proved hopeless so they built a cache and left a lot of food and other things there.

Meanwhile I had taken a few men down to Chilliwak and did some work in township 2, range 29, west of the sixth meridian. This finished, I met the mountain party at Keefers and paid everybody off. This was on August 24. Next morning I started seven men off with the train and told them to go up the trail mentioned above and cut a pack trail clear through Mt. Kythe on the north side of the range. This was done successfully and I now have a trail ready along the whole length of the unsurveyed belt from the Nahatlatch to the Fraser. The party came in for the winter on October 15.

YALE, RUBY CREEK, ROSEDALE, HARRISON RIVER, SIMILKAMEEN
TRAIL, AGASSIZ, ETC. L

A. W. Johnson, D.L.S., 1908.

SIR,—I have the honour to submit the following report on my season's work in 1908.

I left Kamloops on February 13 and began work at Hope. There were some corrections to be made in the survey of the townsite and I ran one or two lines over what is called Little mountain, besides making some connections between the old lots west of Hope and the Dominion system surveys.

Two weeks later we moved up to Yale by canoe, a feat I would not attempt again with loaded canoes unless there was absolutely no other way of getting up. The river is full of rapids that are dangerous for any one but seasoned Indians to pole up, and it was more by good luck than anything else that we got to Yale without casualties.

We were at Yale for six weeks making a resurvey of the suburban lots west of the town and of the crown-granted lots between that place and Choate. The original notes of the suburban lots were destroyed in the New Westminster fire, and though there are some copies of various old plans extant they do not agree very well.

There are, however, one or two corners of fences about the position of which there is no reasonable doubt, and I had the invaluable assistance of Mr. McKenzie, Dominion lands agent at New Westminster, so that the resulting survey is probably as near the original as it is possible to get it now.

It would be well if every owner of a piece of land would first of all take the trouble to find out where his corners are when he comes into possession and, secondly, mark such corners by something not easily effacable. People have no idea at all how difficult it is to re-establish corners. Many consider that you are wasting the Government money if you go any distance from the desired corner to pick up some known point to work from.

These suburban lots are on a hill facing south and, though stony, grow very good fruit. Mr. Wm. Teague has russet apples that I think would be hard to beat anywhere and the Yale cherries are proverbial in British Columbia. There is a lot of this side-hill land between the town and Hope, and where it has been cleared excellent fruit is grown. But clearing is so very tedious and expensive that one hesitates to advise people with no capital to go on to a bush place. For men with a steady income in search of a beautiful country and a mild climate this part of the Fraser valley offers great attractions.

In the middle of April we took to the water again and ran the rapids at a higher stage of water than when we came up. There is some compensation about canoeing

when you are going down stream, even in a gale of wind, and we got well settled in camp at Ruby Creek the same day.

There were a couple of new lines to run here but they unfortunately led over a totally inaccessible precipice so the work took longer than would appear necessary.

Mr. C. D. Brown, as first assistant, and Mr. C. A. Morris, as second, had joined me at Yale. It is a very great help to have a man with you who can take charge of a transit. There are often times when you can have two parties out at the same time, each consisting of three or four men, and in this way more work can be done.

Two weeks later we canoed to Rosedale, landed and having hidden the canoes in the bush above high water line, moved by wagon to Rosedale, where we camped in a swamp.

There are some new settlers on the hills under Elk falls and I ran some section lines for them. These foothills rise to a height of nearly a thousand feet above the Chilliwak plain, and taken as a whole are not quite as difficult to clear as the average coast land. The soil is good for fruit and no irrigation is necessary. They are not more than 5 miles from the Fraser at Rosedale landing, and I think that much activity will be shown in this place.

The weather was distinctly wet even for this district while we were there, and we were in a swamp to begin with and were practically camping in a lake when we left.

The middle of May saw us on board the canoes again en route for Harrison river, where I ran some new lines between the river and the mountains and traversed a small lake where a new settler has begun a clearing.

This part has been logged and there are one or two good skid roads that would be of much use to intending settlers. The great drawback at present is that Harrison river is the only means of communication with the Canadian Pacific railway.

I left my canoes here and went to Keefers to do mountain work. In traversing up the Similkameen trail in 1906 I found a discrepancy in the position of the posts on the railway belt limit in the Canyon trail according to this traverse. My instructions were to find where this discrepancy was. I, therefore determined to work across the mountains from Keefers to Spius creek to see whether the limit was correct at that point. I laid off a base at Keefers and sent two men on ahead over the mountains to put in stations on prominent peaks. Before doing this we ran some section lines below Keefers in the Nahatlatch River valley. My pack train had wintered at Keefers and it was necessary to swim them across to the east bank of the Fraser, and we did this one memorable afternoon. A canoe led the way with two horses in tow and we drove the others in after them. The river was in flood and running like a mill-race, the horses were no sooner in the water than they passed out of our sphere of influence, down stream. They got half way over without much difficulty, except that one of the led ones passed completely under the canoe and nearly upset it. At midstream, for some unknown reason, one of the horses in the middle of the line turned around and swam back. All those behind him followed suit and in ones and twos, strung out for a mile below where they went in, they struggled out. The rest of the afternoon was a nightmare of finding horses in all sorts of inaccessible places, roping them to the canoe and taking them over one or two at a time. One of them, an outlaw called Satan, fought like a fiend. Time after time we drove him into the river and as often he fought his way back dragging the canoe with him. At last they were all safely across and pastured on the Indian reserve.

We made an attempt to follow the triangulation with the pack train, but after climbing to a camp 5,000 feet above the river and finding all routes closed by 6 feet of snow, we abandoned the idea and I sent the pack train with most of the men around by the Boston Bar trail. Then I got two or three horses to take provisions and outfit for myself and one Indian, two days climb up another mountain and after that he and I packed across the mountains by man pack.

We had bad weather. For nearly a week the clouds refused to lift and for two days we sat huddled up under a signal tripod with no sleep and nothing much to eat, while a snow storm lasted, but on the twelfth day we pulled into the horse camp on

Spius creek. When after some days delay, on account of clouds, we got our final angles on the railway belt limit, I found that at that place it was correct. If therefore, there was a mistake on the belt, it must be between Spius creek and the Similkameen trail. So I left half my horses and men with Mr. Brown, with instructions to run the belt limit section line by section line, chaining carefully and taking numerous observations for azimuth, southwards until he met me again.

I myself went down to Hope, laid off a base in the townsite and triangulated over the mountains, with stations on both sides of the Similkameen trail, to the Canyon trail, as a check on my traverse in 1906. These mountains are high and very steep, but fortunately I had a man in the party who could be trusted to read the less important angles and I gave him a transit and the southwest side to work up while I took the northeast. There were therefore three parties using instruments at this time. After the usual misadventures of mountain work such as packing water 1,500 feet to a signal and draining rain off our blankets for tea and so on, I tied on to four separate section corners on the railway belt limit by triangulation and found that my traverse was correct, whereupon I checked the actual lines of the limit going north. Mr. Brown and I met on the south fork of the Tulameen and neither of us had found any error that would account for the one we were looking for. Therefore, I regret to say that though there is a mistake somewhere I cannot find it in my own work.

While the pack trains, carrying among other things a man who had cut his leg with an axe, were working back to Hope down the Canyon and Similkameen trails I took one Indian and went up to Coutlee to check a line that I thought, as a last chance, might be wrong. I found it correct and by dint of walking 47 miles, most of it during the night, got into Spence Bridge next morning.

I reported this result to you at the time and went on with other work, sending the pack train up to Kamloops for the winter. We ran a few miles near Suicide creek at Dewdney and then moved to Abbotsford. This was all resurvey and I was fortunate in obtaining good evidence for re-establishing the corners. This is a long settled district and there are many roads nearly all of which follow the section lines. A certain distance was taken on each side of the line for the road, and corners are in the middle of the roads.

In re-establishing these I sank iron posts in small piles of stones completely underground, in some places putting bearing trees too. I do not know of any other really safe way of marking such corners. I also re-established some corners along the international boundary and was very lucky in getting old bearing trees that nobody had been able to find.

From Abbotsford we went to the edge of the Pitt meadows near Port Hammond. There was a discrepancy in different systems of survey and I carried my lines in from the Canadian Pacific traverse surveys on the railway to make sure of them.

The summer and fall up to the end of September were very fine indeed. There was practically no rain from July 1 to the end of September. It was natural therefore that at Hammond and more particularly at Agassiz we should have a lot of rain. At the latter place it was very heavy indeed and we did a good deal of work in water up to our knees. Agassiz is a very fine farming country and the land is valuable. It was on that account more difficult that in most other places, even to get people to agree about their corners. However, in the instances where there was much dispute I managed to get papers from the adjoining land holders to say that they were satisfied.

On November 19, we went up to Lytton and after doing a small piece of work on the buttresses of Bothanie mountain, moved south of the town to lots 7 and 8, group 1. These I resurveyed after going very carefully over them with the old notes. Besides running 3 miles of section lines and traversing the east bank of the Fraser I tied on to the adjoining Indian reserves and reposted all corners I came across.

On December 17, I paid off the party and went up to Kamloops

MUSQUEAM INDIAN RESERVE, LOCH ERROCH, EMORY TOWNSITE,
LILLOOET AND STAVE RIVERS, BEDWELL BAY,

A. W. Johnson, D.L.S., 1909.

My first work in the New Westminster district during 1909 was to pick up and perpetuate as many of the old corners as possible around the Musqueam Indian reserve and lots 2 and 3, group 2.

I have indicated in the notes that it is probable the southwest corner of the plot of land made over to the Department of Militia and Defence is incorrect, and have shown its probable true position.

In most cases I put in a piece of iron pipe and a cedar post as well, where there was no reasonable doubt as to the true position of the corners. The weather while we were here was very wet.

On February 20, we camped on loch Erroch, near Harrison Mills, for the purpose of correcting the positions of the posts on the seventh meridian. I made very careful connections with various Canadian Pacific traverse points and the seventh meridian and then put all posts on that meridian. The posts in township 24 east of the coast meridian were generally forty links to the east. I destroyed these and substituted iron posts and stone mounds on the seventh meridian itself.

I traversed loch Erroch and a proposed road leading from the present road between Harrison bay and Nicomen, and Nicomen slough, besides running lines in section 20, township 3, range 30, west of the sixth meridian.

I next moved with my assistants and two men to Yale to finish work on the old Emory townsite, I found too much snow, and so went up to Kamloops on March 10 to finish my notes.

On April 22 I began again at Emory and connected the townsite with the Dominion system. Afterwards I moved up to Yale and ran some lines commencing the townsite with the Queen mineral claim on Yale creek.

On May 13 I moved down to Mr. Hogg's ranch near Agassiz.

I defined the northeast corner of section 22, township 3, range 29, west of the sixth meridian and the north boundary of section 22 from Canadian Pacific traverse points and other data and then went across the Fraser to Rosedale.

I retraced some old lines and ran some new ones in sections 26 and 35, township 2, range 29, and in section 6, township 3, range 28, west of the 6th meridian. This land is rapidly settling up and is suffering only from the fact that 160 acres is four times as much as one family can clear in this district of big timber.

Then I surveyed timber berth No. 296, block 1. About two-thirds of this berth is on the precipitous buttresses of Mount Cheam. In fact we often had to climb between two and three thousand feet between breakfast and the beginning of work, and the angles were tremendous, in one case more than sixty degrees, so that though I had sighted up, on looking back the plate prevented my seeing the back picket and I had to go back again and work around in a different way.

There is good cedar and fir on the flat, averaging 36 inches and good fir on the hillsides averaging 24 inches, but most of the timber on the hill is hemlock.

The agricultural land on the flat part of the berth consisting of about 200 acres altogether, is good. The hillsides are so steep that on the remaining 440 acres agriculture is out of the question.

I had instructions to survey timber berth 533 on Lillooet lake, which we began at the end of June. Where timber berths are not sections or other regular parts of the Dominion system, it strikes me that a compass survey would cover the case. To have a line that sidles up a couple of miles of precipices because it is inaccessible, is liable to bring a note from the Crown Timber agent, and while there are probably no timber berth lines that an enterprising surveyor who sets small enough store by his neck or his transit cannot define by at least two posts, somewhere on line, the same result, barring a little accuracy, could be obtained in a very much shorter time by compass.

While this work was going on I took an assistant and one man to Harrison lake to run the lines of timber berth No. 534.

We continued work in township 3, range 4, west of the seventh meridian from where I left off near Pitt meadows the year before, and ran the township line east, to the top of the ridge between Lillooet and Stave rivers. This is heavily timbered country and very rough, particularly the first two miles east of the Lillooet. There are no trails near the line, until the top of the ridge is reached from where one runs into Whonock.

We had an unusually wet summer; the ordinary rainfall on Stave lake, I am told, is one hundred and twenty-six inches. It is probable that upon the ridge it is 15 inches more than this in an average year. What it was this year I do not know, but we had a tremendous lot of rain. In fact, for weeks we were hardly ever dry, especially as the undergrowth is dense huckleberry, as high as a man's head.

The ground is swampy in many places and the cedars themselves seem to feel the excessive moisture, for you find over hundreds of acres of them with dead tops and the inside rotted.

I understand that there is a fire clay on this ridge. There is some fine cedar and fir on the slopes of the hill, but also a lot of cedar that will only make shingles. There is more yellow cedar than I have seen anywhere except around Chehalis lake.

The land will not be used for agriculture for many years, and at least half of sections 6, 5, 4, 3, 2 and 1 in township 4, range 4, are either too steep or too swampy for that purpose.

The rain, which was with us always, got heavier towards the end of September, and we had snow as well which made the huckleberry bushes worse than ever.

While the Lillooet survey was beginning I went up the Bedwell bay on the north arm of Burrard inlet with Mr. Harkin, Secretary to the Minister of the Interior, and a few men to make a preliminary counter sketch of parts of sections 24 and 25 in the fractional township west of township 39, west of the coast meridian. It was proposed to subdivide this into acre and half acre lots approximately, with the idea of making a summer resort. With the help of Mr. Harkin I made a sketch of a proposed subdivision, sent it to Ottawa, and then went back to the party on the Lillooet.

In the middle of October we came down here again from Whonock and began the subdivision. I posted a large part of this, making use only of the straight lines in the design. Later on it was decided that curves should be substituted and that a road should be left along the water front. Also a great deal more of the Government land was included in the part to be subdivided.

There are skid roads running through this property, which it is advisable to utilize on the plan as roads, and the character of the land is decidedly hilly in places. In fact the best part of the subdivision lies on a hill that faces the head of the inlet and slopes to the salt water of Bedwell bay.

The view is unsurpassed in the neighbourhood of Vancouver. There is a lake nearly a mile long, half a mile east from the inlet, from which a good skid road on an excellent grade runs to the inlet close to Port Moody, so that this subdivision could be very easily made accessible from New Westminster by land, as it is now by water from Vancouver. The distance is about the same from both places, being ten or eleven miles in either case, an hour and a half by motor boat, or three-quarters of an hour by motor car when the road is improved. With my new instructions I began work again and kept it going all winter. When the rain was a regular water-spout we worked on the roads; at other times we worked the transit under a carriage umbrella.

I am opening out eight-foot roads, cutting out all logs and blasting the stumps. I am not doing any grading as that would necessitate horses and a large number of men, but the present roads will be very useful to people who live a short distance from the water front.

The work has been slow, because the lines have to be altered so often to avoid obstructions along roads that the contour sketch, from which the design was made,

did not show. In spite of the hills most of the roads are on good easy grades and very few in the entire subdivision that a horse and rig could not climb. The blocks are being laid out over the whole property, but only a limited number of the more accessible ones close to the water and the skid roads are being actually subdivided and posted in detail at this time.

The others can be easily picked up on the ground and cut into lots at any time when more land is sold.

STAVE, LILLOOET AND PITT LAKES; VALLEY OF SUICIDE CREEK. ETC.

A. J. Campbell, D.L.S., 1910.

SIR,—I beg to submit herewith my report regarding the operations of my parties engaged in the examination of undisposed lands in the New Westminster district of the Railway Belt of British Columbia.

In accordance with your instructions, received through Mr. A. O. Wheeler, D.L.S., I took charge of the examination of lands in the New Westminster district. Two parties were placed in the field, one in charge of G. A. Bennett, D.L.S., worked in the Chehalis and Harrison Lake country and northwest along the Fraser valley, while the other in my charge worked in the vicinity of Stave, Lillooet and Pitt lakes and westward. The report of Mr. Bennett, giving details of his operations, is submitted herewith.

I left Calgary on May 12 and proceeded to Vancouver, where I procured my outfit. It was thought advisable, as there were so many lakes lying in the country to be examined, to provide the parties with canoes for the purpose of transporting the camp outfit, and for use in working around lakes. Two Peterborough canoes were purchased for each party and were found of great service.

The examination of lands was commenced on May 19 at Nicomen, and the lands in the vicinity of that place and of Dewdney, including the valley of Suicide creek, were gone over.

On May 28, Mr. Bennett arrived and I immediately proceeded to Vancouver to procure for him the necessary outfit and supplies, and also to hire men. In the meantime he was in charge of my party and was carrying the work forward. On June 2 Mr. Bennett took charge of his party and started on the examination of lands at Nicomen, working from there eastward.

By June 1 the lands in the vicinity of Nicomen and Dewdney were completed and the party proceeded with the work of examining the lands in the vicinity of Durieu or Hatzic Prairie. This was completed by the 14th and a move was made to the vicinity of Stave lake. Between June 15 and July 9 the lands around the south end of Stave lake and those lying in the vicinity of Stave river were examined, the latter being reached by flying camps. There being no survey posts on the west side of Stave lake, and being unable to locate more than a very few of those on the east, it was necessary to make a traverse of the lake so as to be able to describe the lands adjoining the lake by sections and quarter sections. Accordingly a traverse was run along the west side of the lake and up North Stave river and for some distance up Cypress and Clearwater creeks. The lands in the vicinity were also examined and the work around Stave lake was finished on July 28.

I had intended to move the camp across the ridge between Stave and Lillooet lakes, but on exploration found that it would be just as expeditious, if not more so, to reach the Lillooet lakes by moving down to the Fraser and going in from Haney. Accordingly we moved down to Stave falls by canoe, and, by the kindness of the superintendent at the power works there, were allowed the use of a team to transport the camp to Ruskin. From Ruskin we moved to Haney via Fraser river, and from Haney by wagon to Lillooet river.

The period from August 2 to 11 was spent looking over lands in the vicinity of Lillooet river, and camp was then moved to Lillooet lake. The river being unnavigable, it was necessary to pack the camp outfit on our backs.

During this period I visited Mr. Bennett's party to see how he was progressing, and to make arrangements for future work.

There being no survey posts in the neighbourhood of Lillooet lake, it was necessary to make some surveys. This was done by traverse and by carrying a system of triangulation up the lake, the lands being examined by lines run from the traverse points. The time between August 12 and September 7 was occupied in this work and in the exploration of Gold creek valley.

The lands on the southerly slopes between Lillooet river and the North Lillooet and across to Pitt meadows were then examined. This work was finished on September 30, and a move was then made to the Pitt Lake country and the examination carried on in that region and in the vicinity of Pitt river, which was completed on October 28. The period from October 29 to November 8 was spent in examining the lands to the east of Coquitlam river, and from November 9 to November 15, those on the west side of the river.

On September 28 rain started and fell nearly steadily until October 8; from then the weather was very unsettled and it rained at frequent intervals, making the work on which we were engaged very disagreeable. On November 16 the party moved to Westminster Junction, and the men were paid off. Mr. Bennett's party came in on the 17th and was also paid off.

Mr. Bennett and I spent a day at Vancouver collecting data as to lands disposed of, and we then started for Calgary, arriving there on November 20.

The following methods and instruments were used in conducting the examination. If the lands lay within surveyed territory, the survey lines were traced and auxiliary lines run to gather sufficient information to make a complete report of the lands examined. In unsurveyed territory triangulations, traverses and approximate production of the township subdivision lines were made so as to collect the necessary information regarding the lands examined. For triangulation work, transit instruments were used, and for traverses a transit surveying compass, a 66-foot chain and a stadia stadia rod.

In the land examination direction was kept by military pocket compasses, and distance measured by chain, stadia, hand-levels and by pacing with the assistance of a tally register. Elevations above sea-level were obtained by aneroid barometers which were carried by the examiner. The travelling barometers were checked for fluctuations due to changes in the atmospheric pressure by the readings of a stationary barometer at camp, these readings being taken every hour. The elevations above sea-level were obtained from elevations along the Canadian Pacific railway by James White, geographer. The stationary barometer readings were checked with these elevations wherever possible.

CHEHALIS AND HARRISON LAKE COUNTRY.

G. A. Bennett, D.L.S., 1910.

SIR,—I have the honour to submit the following report on my season's work of examining lands in the New Westminster district of the railway belt.

On May 23, in accordance with a letter of instructions from the Surveyor General dated May 18, I started for Nicomen, British Columbia, where I was instructed to meet you. I arrived at Nicomen on the 28th, and finding that you had moved to Dewdney, proceeded there the same day and joined your party. On June 2, with arrangements completed for putting my party in the field, I returned to Nicomen, met the three men you had hired in Vancouver and prepared to make location surveys for the examination of township 24, east of the coast meridian.

Using Nicomen slough and later Harrison bay as a base, the country was examined eastward to the mouth of Chehalis river and finished by June 25. Finding it impossible to use the canoes on Chehalis river the party packed the camp equipage up the Chehalis valley, and completed the surveys and classification of that district on July 29. Using the canoes, Morris lake was then visited and the country adjacent to it was examined, including the lands in the vicinity of Weaver lake. Completing this work on August 3, the party moved to Harrison lake and began the examination of lands on the western side of the lake. These lands, including the islands in the lake were classified by the 23rd and then the party crossed the lake and, beginning with Silver creek valley continued southward the examination of the lands accessible from the eastern shore of Harrison lake. Completing the examination of all lands examined. In unsurveyed territory triangulations, traverses and approximate returned to Fraser river and resumed the work of examining eastward on the north side of the Fraser valley.

In order that the party might safely and expeditiously take the canoes up the riffles of Fraser river an Indian canoe man was engaged. However, because of the heavy continuous rains, which fell during the first two weeks of October, the work of examination was delayed and the river navigation made difficult so that the party did not complete the work to Yale until October 18. To travel farther up the river with the canoes was now impracticable, the high water making the rapids in the canyon above so dangerous that no boat could possibly survive.

On account of the difficulties of transportation in this region, the party now crossed Fraser river and examined the portion of township 6, range 26 and township 7, range 25 east of the river. Therefore it will be unnecessary for another party to come farther up Fraser river than Hope when examining the lands south of the river.

Completing the work in the neighbourhood of Yale by October 23, the camp equipage was transported to Spuzzum by freight. From here surveys were made connecting with those from Yale and the lands in the neighbourhood examined including the Spuzzum creek valley and the lands east across Fraser river consisting of fractional range 23 and township 8, range 25. On October 31 the camp equipment was shipped via Canadian Pacific railway to China Bar and from here lands were examined up to the north limit of the Coast division including the Scuzzy river valley and lower Anderson river valley.

Winter had now begun to set in. From October 1, when the rainy season began, there had been almost continual rain which now changed to sleet and snow, and covered the uplands to a depth of from six to ten inches. These weather conditions made work such as the party were engaged on very disagreeable, as much of the time had to be spent in flying camps up in the mountains.

The examination of the country to the west of Fraser river in the Coast division was now completed, as well as of lands east of Fraser river, north of township 5, which could be conveniently reached without the assistance of packhorses.

On November 10 the party started for Westminster Junction travelling by railway to Yale, then by canoe down Fraser river to Pitt river where the canoes were stored, and reaching Westminster Junction on the 17th the party were paid off.

After spending a day in the Lands Office at New Westminster gathering data about lands disposed of, I started for Calgary, reaching there November 20.

HARRISON RIVER, SUMAS PRAIRIE, CULTUS LAKE, ETC.

W. J. Deans, D.L.S., 1911.

I left Vancouver on May 16 for my first work of the season which consisted in laying out timber berth No. 544 in section 34, township 2, west of the coast meridian.

This section is situated about one mile south of Port Mann, the new city which the Canadian Northern Railway company is building on Fraser river. The land is consequently very valuable, the adjoining lands being held at from three to four

thousand dollars an acre. The surface is undulating and covered with a thick growth of large fir and cedar with heavy underbrush. The soil is either black loam or clay and would produce fruit, vegetables or grain. The Yale and Westminster wagon road which runs through this section was widened during the past season for the convenience of automobiles and now forms part of a through automobile road to the gulf of Mexico.

My next work was the survey of a portion of section 10, township 38, west of the coast meridian, after which I surveyed timber berth No. 553, in township 17, east of the coast meridian. The lands comprising this berth are situated about one mile north of the Canadian Pacific railway and are at a height of from 500 to 800 feet above Fraser river. The surface is hilly and covered with fir, hemlock, cedar and thick underbrush. The soil is good, mostly clay and is well adapted for garden vegetables, small fruits and grain. The settlers in this part are engaged in dairying and raising small fruits and poultry. The principal market is Mission City. From this station the fruit is shipped to points as far east as Winnipeg, one hundred and ten thousand dollars' worth having been shipped during the season of 1910. A jam factory which is located there uses such fruit as will not stand shipping on account of ripeness.

The Northern Power company are developing power from Stave lake and have in course of construction an electric railway which will run close to timber berth No. 533. This will afford cheap and efficient transportation and will enable the settlers to go more extensively into farming pursuits and fruit culture.

Having finished this work on June 26, I performed two small surveys, one in section 2, township 4, range 29, and the other in sections 9 and 10, township 4, range 26, west of the 6th meridian. In the latter survey most of the land occupies the side of a steep mountain and is covered with a growth of alder, birch and poplar, interspersed with some large cedar and fir. The soil is loose rock mixed with clay and is not suitable for agricultural purposes. Strawberries grow in great profusion along the shore of Harrison river and when cultivated attain a great size. The market however is very limited so that extensive cultivation would be useless at the present time. The waters of the river abound with fish.

My next work was to retrace the boundaries of section 19, township 22, east of the coast meridian, near Sumas lake. The settlers around this lake are engaged in cattle raising, dairying and fruit raising. The low land around the lake known as Sumas prairie produces large quantities of hay and is well adapted for the growing of small fruits, while the bench lands situated about twenty or thirty feet above the lake are especially well adapted for the cultivation of cherries, those produced being unexcelled for size, colour and flavour. The B. C. E. railway skirts the shore of the lake making the place easy of access.

On July 17 I moved to Cultus lake to survey sections 18, 19 and 20, in township 25, east of the coast meridian. These sections are very rough and covered with heavy timber, only small patches being suitable for agricultural purposes. After surveying the south boundaries of sections 2 and 3, in township 19, and investigating the divergence between the international boundary and the south boundary of section 5, township 22, east of the coast meridian, I left for township 3, range 29, west of the 6th meridian, where I completed a small survey, and made some small additional surveys in timber berth No. 553, in township 17, east of the coast meridian.

We completed this work on September 26, and moved to township 20, east of the coast meridian to survey lands suitable for farming purposes and to traverse the south shore of Fraser river through the township. Owing to the recent construction of the Canadian Northern railway through this township most of the original monuments along the river have been destroyed. I extended the line from the north side of the river and retraced a number of lines in order to obtain closings within reasonable limits. Three squatters along the flats near the railway are engaged in fishing and raising a few cattle and vegetables.

In township 8, range 26, west of the 6th meridian, I expected to run about fifteen miles, but about two weeks were spent trying to locate reference posts along the railway, most of these having long ago disappeared. I retraced about five miles of the C. P. R. traverse and reestablished reference points on rocks, cutting an arrow with an old drill. I also retraced the boundaries of the Indian reserve to the south of Spuzzum creek and also the boundaries of lot 4.

Owing to unfavourable weather conditions I closed operations on November 20.

MESLILLOET RIVER, HATZIC PRAIRIE, PITT MEADOWS, SCOTT CREEK, VALLEY OF SILVER CREEK, ETC.

A. Lighthall, D.L.S., 1910.

About April 16, 1910, I engaged my party at Vancouver and proceeded to lay out a piece of agricultural land cut off from timber berth No. 510 in township 6, range 7, west of the 7th meridian. This is situated at the head of the north arm of Burrard inlet and was reached by steamer from Vancouver. It is a flat alluvial strip of land in a narrow valley on the east of Mesliloet river. It will make a good piece of fertile land when the stumps and underbrush are removed.

On May 2 we moved camp to township 39, west of the coast meridian, to survey timber berth No. 535, comprising all of section 28. We reached that place by taking steamer to the British Columbia electric power plant on Burrard inlet and crossing to Buntzen lake. The berth lies on the side and top of a mountain about two thousand feet high, on the east shore of this lake. The land is too high and rough to be suitable for agricultural purposes, but a strip at the southerly end of the lake is being logged by the Paterson Lumber company.

We next proceeded to Dewdney by rail and thence by wagon to Hatzic prairie, a strip of low wet land in a valley about a mile wide and extending north and south between Fraser river and Stave lake. We first ran some section lines on the east side of the valley in township 21, east of the coast meridian. The land here is heavily wooded and lies on a fairly steep hillside. A few settlers have taken up farms. The land in the bottom of the valley is good where not too wet, and the many settlers seem to be doing fairly well in dairying and fruit-growing.

We then subdivided about three thousand acres on the west side of the valley in sections 10, 16, 21, 28, 27 and 34. Here there is an extensive tract of bench land heavily wooded with second-growth fir, hemlock and cedar. Quite a number of settlers are located here, but have done little up to the present. When the land is cleared it will be valuable for fruit growing and dairying, the soil being a sandy loam with a gravelly subsoil. When a new road is opened up the district will develop rapidly. Beaver are plentiful, their dams being found on all the small streams. Bears and deer were also seen. No minerals were found.

The survey was continued north into township 4, range 3, west of the 7th meridian. The land here, which is lower and slopes towards Stave lake, is well settled, but much of it will be flooded when the power plant now under construction on this lake is completed. The occupations of the settlers are mixed farming and lumbering on a small scale.

Our next work was in township 40, east of the coast meridian, where we surveyed timber berth No. 537. The land in this township south of Pitt river is known as "Pitt meadows." It is low and flat and covered with hay and small brush. It will have to be dyked and well underdrained before it can be successfully farmed. This has been done on a great part of it and it is now an important dairying and stock-raising centre. The land to the north is rough and rocky and nearly all that is suitable for agriculture has been homesteaded or taken up as timber berths. A stone-quarry is in operation in section 22; the stone is shipped to New Westminster.

We then moved to the head of Pitt lake and surveyed timber berth No. 537, on Scott creek, a swift-flowing stream, about thirty feet wide and two feet deep, emptying into Pitt lake from the east, about a mile from the head of the lake. The timber here is about the best I have seen, fir, cedar and hemlock growing to enormous sizes. The timber can be easily taken out as the land all slopes to Scott creek. Considerable water-power could be developed on this creek. About fifty or seventy-five acres of land will be available for agriculture when the timber has been removed.

Our last work was in township 41, east of the coast meridian. This township is fractional and consists of four sections in the valley of Silver creek. The land is mostly low, flat prairie, flooded at high water. By dyking and draining it can be made into good dairying or grain-growing land.

The party disbanded at Westminster Junction on November 22.

WOODHAVEN, PITT LAKE, SILVER CREEK, HARRISON LAKE AND RIVER, STAVE RIVER, ETC.

A. Lighthall, D.L.S., 1911.

I arrived at Vancouver from Ottawa on April 18, 1911, and having purchased my supplies and organized my party I moved up the north arm of Burrard inlet to Bedwell bay. The work here consisted of the taking of some levels in the townsite of Woodhaven which had been laid out by Mr. A. W. Johnson, D.L.S.

Woodhaven is beautifully situated. It is only a few miles from Vancouver, faces the salt water and has a plenteous supply of fresh water procured from a small lake about a mile inland. The surface is rolling and any land not required for townsite purposes would make excellent farm land.

Having finished the work there on May 10, I proceeded to Pitt lake to survey several timber berths and to mark out as much of the limit of the railway belt as could be conveniently reached from the lake. The land there is very mountainous and surveying was slow, considerable time being spent in travelling to and from camp. The work might be more expeditiously carried on if a larger party were employed and two or three men kept packing provisions continuously, as much time is always lost when the regular party are moving camp.

The land will never be good for anything but timber as it is sometimes hard to find a place level enough to pitch a tent. Game is fairly plentiful, consisting of goats, bears, deer and grouse. Considerable water-power could be developed on Rainbow creek, which has a drop of about eight hundred feet in a quarter of a mile, and at low water has a flow of approximately five thousand cubic feet per minute.

Our next work was along Silver creek which flows into Pitt river from the west side just at the foot of the lake. Along this creek a tract of low, wet land extends for about two miles from its mouth. It is about a mile wide and has been formed by a deposit from the surrounding hills. This land is covered at high water, rendering it unfit for agriculture at present; but by dyking, it could be made into a good agricultural district well suited for grain growing or dairying. The higher ground at the foot of the hill is heavily timbered but would make good fruit-farming land as the soil is very fertile. It is easy of access as New Westminster can be reached by boat. The rock formation is granite with evidences of iron and copper, but no minerals have yet been found in commercial quantities.

After doing some subdivision work in township 4, range 5, west of the seventh meridian, we surveyed a timber berth on Harrison lake, about eighteen miles from the foot of the lake. Harrison river at that season was very shallow and swift, but in high water it is sufficiently deep for large steamers to run to the lake. The mountains, though as high as around Pitt lake being about 5,000 feet above sea-level, are not so steep and rugged, but the timber is smaller. As there is little agricultural land around Harrison lake the logging industry is likely to be the only one which

will flourish. A summer resort has been opened up at the hot springs at the foot of the lake, and the district attracts sportsmen as bears and deer are numerous.

Stave river, a part of which I traversed next, is a rapid stream and navigable only for about two miles from its mouth. The surrounding country seems to be well adapted to fruit-growing as it is rolling, very fertile, and well drained. The Western Electric company have developed a fine water-power on this river and have transmission lines to Vancouver and the surrounding district.

Having finished the traverse of Stave river on November 16, I paid off the party, stored the outfit and returned to Vancouver.

WOODHAVEN, SILVER RIVER, SUMAS PRAIRIE, LANGLEY TOWNSITE, RUBY CREEK, ETC.

A. Lighthall, D.L.S., 1912.

I received your instructions dated May 1, 1912, at Vancouver, and, in accordance therewith. I immediately organized my party and proceeded to Woodhaven, where my first survey work was located. The place is about eight miles from Vancouver, situated on the north arm of Burrard inlet and easily reached by steamers which make daily trips up the North arm. It is being laid out as a townsite, and is intended as a summer resort. The land is comparatively level and is covered with heavy bush, though most of the valuable timber has already been removed. Numerous skid roads have been built during the logging operations and, being still in a state of good repair, will probably be used as streets for some time. Part of this townsite lying close to the shore has already been disposed to private parties, and about a dozen houses have been built and are occupied during the summer months by their owners.

I next moved my party to Hope by railway and thence by pack train up Silver river to survey timber berth No. 554. There is a very good pack trail up this river, but pack horses are a little difficult to obtain just when they are needed, making transportation uncertain and expensive. The river is fairly large, being about one hundred feet wide and two or three feet deep near its mouth. The current, however, is very swift and the river is entirely unnavigable. It provides good fishing as it contains numerous fine, large trout. The river flows through a valley which varies from one-quarter to one mile in width. The bottom of the valley is very heavily timbered with cedar, fir and hemlock, some of the cedar reaching a diameter of thirteen feet. The hills on either side are very steep, and the timber thins out rapidly as one ascends. These hills rise to a height of five to six thousand feet, and some of them are covered with snow the whole year. No fires have ever run through this valley, and the land appears to be fairly fertile and will, no doubt, make excellent agricultural land when the timber has been cleared off. The Provincial Government is now building a fine automobile road up the valley, which will eventually connect Hope with Princeton, and afford future settlers an excellent means of communication with the outside world. At present the only inhabitants of this valley are a few trappers who catch bears, muskrats and marten.

I completed the survey of four blocks of this timber berth and also traversed the right bank of the river across section 5, township 5, range 26, west of the 6th meridian, and thence moved back to the north arm of Burrard inlet, to the survey of timber berth No. 555, which is situated in township 6, range 7, west of the 7th meridian. Several timber berths had already been laid out in this locality, but on retracing some of the lines I found that the old surveys were very much in error, and consequently I had to lay out timber berth No. 555 considerably larger than my instructions called for. This group of timber berths is laid out along the valley of Grand creek a stream about thirty feet wide and one foot deep at its mouth. In the last half mile of its course it descends about eight hundred feet and water-power has been developed on it to run a quarrying plant on the shores of the inlet. Above the falls is a basin of considerable extent where logging operations are now being carried on in timber berth No. 270. The land here will never be of much use for agricultural purposes after the timber has

been taken off, as it is very rough. Around this basin the hills rise steeply to a height of about four thousand feet, the timber growing up to about three thousand feet, and the tops of the hills being quite bare.

After finishing timber berth No. 555, I moved to Pitt lake to the survey of timber berth No. 557. This lies on the west shore and about two miles from the head of the lake and, like most of the country around Pitt lake, is very rough and mountainous. The hillsides are covered with a fair growth of timber, but I should judge that the logging would be a rather difficult operation on account of the steepness of the hills. DeBeek creek enters the lake just to the north of this berth. This stream is about fifty feet wide and two feet deep, and as it has a good fall considerable water-power could be developed. Game is plentiful in all these mountains, but is very hard to get on account of the dense undergrowth. The creeks contain a considerable quantity of fine trout.

From Pitt lake I went to Sumas priarie in township 19, east of the coast meridian. The survey here consisted of the traverse of Anderson creek and Sumas river across lot 224, group 2. The country is perfectly flat and is covered with grass. It makes excellent grazing land but is subject to overflow from Sumas lake when the water is high, and is not used for agriculture to any great extent. It is well settled, the farmers going in for cattle raising on a limited scale. When it is dyked it will no doubt develop into a fine agricultural district.

From Sumas priarie I went by boat down Sumas and Fraser rivers to Langley townsite. This was originally intended for the capital of the province and contained a court-house, jail, and several other public buildings, but when the capital was moved to New Westminster, the town was abandoned, and very few traces of the old buildings are left. The land is mostly wooded and is comparatively flat, and the lower portions are subject to overflow from the Fraser, but can be reclaimed by dyking, and made into good agricultural land. There is a peat marsh, however, in the northwest corner of the townsite covering about one hundred and fifty acres which will never be any use for agricultural purposes, the moss and peat going down to a great depth. Five of the original settlers are still on the land and the townsite was divided into six lots of about one hundred and forty acres each, one lot going to each settler; the sixth, being laid out in the peat marsh, was not claimed by anyone. The shore along the northeast corner of the townsite is being rapidly cut away by the river; in some places it has encroached over two hundred feet on the land in the last twenty years. The settlers are engaged in farming in a small way, and also depend for their living on catching salmon in the river. Grouse and pheasants are plentiful in these parts.

From Langley townsite I went to Ruby creek by railway. There I laid out fractional sections 30 and 31, in township 4, range 27, west of the 6th meridian, on the north bank of Fraser river. The land is well covered with timber, and parts of it, being fairly level, are well adapted for agricultural purposes. The best land, however, is taken up by Indian reserves, and as the Indians pay more attention to fishing than to agriculture, not much progress has been made on it. The climate appears to be a little drier and colder than it is nearer the coast, and high winds prevail, due no doubt to the narrowing of the Fraser valley.

From Ruby creek I returned to Hope, and from there went up Silver river where I laid out the remaining two blocks of timber berth No. 554. I reached there on November 18 and found that the season was becoming rather advanced for mountain work, the pack trail being considerably more difficult to travel over than on the previous trip. We were fortunate, however, in having a couple of weeks of fine weather and had just finished the survey of the two blocks when a heavy snowstorm came on which put a stop to further survey work in this district. I returned to Hope and thence went by rail to Agassiz; from there I went by wagon to section 16, township 4, range 28, west of the sixth meridian. There I laid out the southwest quarter of the section for a settler named McLean who had been living on it for six or seven years. About fifty acres of this quarter is good flat land, the rest of it lying on a hillside is of no

use for agricultural purposes. A considerable amount of flat land adjoins this quarter on the east and is occupied by a very prosperous looking farming community.

On completing this survey, I paid off most of my party and took the remainder down to Westminster Junction and from there up Pitt river to township 41, east of the coast meridian. There I corrected the positions of the posts on the east boundary of section 12, and also on the east boundaries of the northwest and southwest quarters of section 12. This work was done in a heavy rainstorm, which made the trip very unpleasant.

That completed all the surveys for which I had instructions, with the exception of a small survey near Stave lake, and as I considered that this survey could be done more advantageously at the beginning of the next season, I returned to Vancouver, paid off the remainder of my party and closed operations for the season.

DESCRIPTION OF TOWNSHIPS.

Tp. 7, R. 23, W. 6th Mer. *James Gibbon, D.L.S., 1914.*

The Coquihalla river flows through this township in a northeasterly direction from section 6 to section 34. The bottom land adjoining the river is about 10 chains in width and consists of 10 or 12 inches of sandy loam overlying gravel and boulders. It should be suitable for growing grass or vegetables, but, owing to its limited area, elevation and other drawbacks it will hardly attract settlers for some time to come. This bottom land through sections 17, 18, 20, 21, 28, and 29 is heavily timbered with fir and cedar from 12 to 40 inches in diameter. Sections 20, 21, and 28 are included in timber berths Nos. 464 and 465. This timber could be taken out easily. A creek from 50 to 60 feet wide enters the Coquihalla river from the east in section 18. Above this point the river bed is almost dry as far as section 28 where a small creek enters from the east. High, rocky ranges lie on both sides of the valley in this locality and the steep slopes extend to the river. In section 33 it begins to open out into rolling heights timbered with spruce, hemlock and jack pine from 10 to 18 inches in diameter, a great deal of which has been fire-killed. There is no hay nor open grazing land. There is a plentiful supply of wood for fuel close to the railway and river. Above section 18 the river affords a scanty supply of water in dry weather. The climate is temperate but subject to the sudden changes of mountainous regions. The snowfall amounts to several feet. No favourable locations for the development of water-power were seen. No coal, minerals, nor stone-quarries were found. Game, with the exception of mountain goats and ptarmigans, is scarce. Some trout are caught in the river.

Tp. 9, R. 23, W. 6th Mer. *A. V. Chase, D.L.S., 1912.*

This township is traversed from north to south through its easterly sections by the valley of the Coldwater River which valley contains all the land examined in detail, and of evident agricultural value in this township. Much of the township is composed of rough timbered hills a great deal of which area has been burned over and rendered useless in the south part of the township. Considerable timber is found in the north part of the township along the river flats and on the side-hills.

There had not been, up to October, 1912, any cultivation carried on in the valley and consequently no information could be obtained as to how conditions effect agriculture but settlers appear very optimistic as to possible results.

SECS. 2 AND 11.—From 3,400 feet and upwards above sea.

A narrow strip of agricultural land lies along the river bottom varying in width from 10 to 20 chains throughout these sections. Soil is a reddish loam with a suggestion of clay and is irregular to rugged as to surface. It could, however, be worked after grubbing, clearing and levelling and should grow a fair hay crop with possible success in the hardier cereals and vegetables. The land is practically all burned over through these sections including the river bottom and much dead fallen timber is seen everywhere. Grazing is fair in the burned over area.

SEC. 13.—Elevation from 3,350 feet and upwards above sea.

Only a small portion of the extreme westerly part of this section lies within the river flats. There is an area of about 50 acres of reddish sandy loam and soil fit for hay growing. The section is timbered with spruce fir and pine to 18 inches in size. No grazing.

heavily timbered it is good land and should produce good hay crops with possible success in the hardier vegetables and cereals. The west half of this section is mostly steep timbered sidehill.

The timber of this section is bull pine and fir with some spruce none of which runs much over 18 inches in size, but there is a considerable quantity good for railway ties. There is practically no grazing.

SEC. 23.—Elevation from 3,300 feet and upwards above sea.

About 50 acres of the southeasterly portion of this section is agricultural land. The soil is a sandy loam with a surface of decayed vegetable matter and a gravelly subsoil. It is a rather poor class of soil but would likely grow hay. There is very little fir in this section and the timber is composed mostly of spruce to 18 inches in size fir for railway ties with considerable small jack pine and poplar. No grazing.

SEC. 24.—Elevation from 3,250 feet and upwards above sea.

About 100 acres of the west part of this section is included in the river flats. It is a fair quality of sandy loam soil fit for hay and the hardier cereals and vegetables. It is densely covered with spruce and pine 8 inches to 14 inches, of small value except for ties.

The east part of the section is steep timbered sidehill with no merchantable timber.

SEC. 25.—Elevation from 3,200 feet and upwards above sea. A strip of land averaging 20 chains in width is found river bottom in this section. It is a trifle gravelly beneath the sandy loam surface, but should be a good area for hay growing as well as for some of the hardier cereals and vegetables. The remainder of the section is steep side hill. The section is timbered throughout with small pine and spruce and fir on the sidehills. The only value is for railway ties.

SEC. 36.—Elevation from 3,180 feet and upwards above the sea. About 60 acres of the southwest quarter is agricultural land similar to the remainder of the valley, a light sandy loam or mould surface with subsoil of gravel. It is densely timbered with small pine and spruce with underbrush and a great deal of clearing and grubbing would have to be done. The remainder of the section is steep sidehill with scattering scrub fir and brush.

The remainder of this township is composed of steep timbered hills mostly over 4,000 feet above sea level. Considerable damage has been done by fire particularly in the south part where hundreds of acres of hilly country are completely burned over, leaving a wilderness of dead standing and fallen timber. The northern part of the township has mostly escaped fire, but the timber is very small and scrubby having no commercial value.

Tp. 10, R. 23, W. 6th Mer. *A. V. Chase, D.L.S., 1912.*

This township is of little value, being composed almost entirely of high mountains covered with scattering timber. Murray lake at the southeast corner of the township is drained by a branch of Spius creek which flows northerly through the township. A few acres of land at the north end of Murray lake present all the agricultural land in the township.

Murray lake is a small lake of from four to five hundred acres in extent situated in the west half of section 1 and the northwest quarter of section 36 in the township to the south and lies at an elevation of 3,670 feet above sea. At its northwesterly extremity is situated an area of workable land about 15 acres of which have been partly cleared and some planted in hay. The elevation is too great, however, for any other kind of agriculture, in fact the settler who did the clearing has long since abandoned the place.

The remainder of the township is very rough, being mostly all high hills covered with scattering timber and a great deal of old burn. Fire has done considerable damage particularly in the northwest part.

SEC. 14.—From 3350 feet and upwards above sea.

Most of the east half of this section is agricultural land being composed of somewhat irregular river flats of a reddish loam soil. While this is for the most part

Probably 75 per cent of the area of this township is over 4,000 feet above the sea. The valley of the south branch of Spius creek is a deep V-shaped valley holding no agricultural land. The timber throughout is of stunted size and scattered and is not of commercial value. There is practically no grazing land.

Tp. 6, R. 24, W. 6th Mer. *James Gibbon, D.L.S., 1914.*

(*Partial.*)—This township is reached by a trail which follows the valley of the Coquihalla river from the township to the west, entering in section 19 and leaving in section 35. Owing to the construction of a railroad through this township the original pack trail was destroyed. The new trail which has been built on the upper side of the grade is very dangerous but can be used by pack-horses. The river throughout this township is generally about 1 chain wide and from 1 to 2 feet deep, and has a current of from 5 to 8 miles per hour. It is subject to sudden rises and falls. There is little or no bottom land, the river flowing through a narrow, deep, rocky defile through sections 19, 20 and 21. On the south side of the river there is a high bench, from 20 to 40 chains wide in places, which might be converted into agricultural land. It has a soil consisting of a light sandy and gravelly loam, and is lightly timbered with spruce, jack pine and a few scattered fir from 12 to 20 inches in diameter. Boston Bar creek joins the river in section 19 and would afford water for irrigation purposes if necessary. This creek flows through a deep canyon on approaching the river, and has a probable fall of 1,000 feet in 1 mile. It is about 50 feet wide, and from 12 to 18 inches deep, and contains clear water of good quality. There is no large amount of valuable timber in this township, fires having swept over the surface, leaving considerable *brulé* and many bare rocky ridges. In the immediate vicinity of the river there is a strip of green timber, but it could not be made use of on account of the rough and precipitous nature of the country. For this same reason there is also very little timber for fuel available. The climate is pleasant but subject to the sudden atmospheric changes of a mountainous region. The granite might possibly be valuable for quarrying purposes. No traces of minerals or coal were found. Game is very scarce.

Tp. 7, R. 24, W. 6th Mer. *James Gibbon, D.L.S., 1914*

(*Partial.*)—The work in this township was in the vicinity of the Coquihalla river which flows through section 1 in a northeasterly direction. Near the east outline there is a fall of about 50 feet, which could be utilized for water-power. This township as far as known is similar to the township to the south in so far that it shows very little value in soil, timber or minerals. However, the timber in the vicinity of the river is somewhat better, a fine clump of fir being found in legal subdivisions 7, 9 and 10 of section 1. Tunnel timbers for the construction of the railway through the Coquihalla valley have been taken from this clump.

Tp. 5, R. 25, W. 6th Mer. *James Gibbon, D.L.S., 1914.*

(*Partial.*)—This township is reached by the Canadian Pacific railway to Hope, and by wagon trail up the valley of Coquihalla river, which flows almost due east through sections 7 and 8 and then in a northerly direction through sections 9, 16, 21, 28 and 33, leaving the township in section 34. Along either side of the river rocky mountain ranges rise to a height of about 4,000 feet. The slopes are between 20 and 30 degrees and reach to within 10 to 20 chains of the river. They are heavily timbered with fir, cedar and hemlock from 12 to 36 inches in diameter with a few scattered fir

and cedar up to 60 inches. The soil of the slopes consists of sandy loam and vegetable mould overlying broken rock and stone. The bottom land is heavily wooded with cedar and fir up to 60 inches in diameter with considerable alder up to 12 inches and an undergrowth of vine maple and willow. This land would be very difficult to clear and cultivate. The soil here consists generally of a sandy and clay loam overlying rock and gravel. Anderson creek which joins the Coquihalla river in the southwest quarter of section 16 flows from the east through a narrow valley with little or no bottom land. It is from 10 to 15 feet wide, from 6 to 12 inches deep and has a current of about 3 miles per hour. The sides of the valley are thickly covered with timber of more or less commercial value, but owing to the rough and broken nature of the creek bottom and the steep mountainsides it is very difficult to get out. There is no grass nor hay. The water is fresh and of good quality. The Coquihalla river is about 4 chains wide, from 2 to 6 feet deep and has a current from 5 to 8 miles per hour. No land is likely to be flooded. There are no falls nor favourable locations for dams. The river is not easily forded except at time of very low water, which occurs in August. The climate is mild with no extremes. There is sufficient rainfall to ensure an abundant growth. Very few indications of summer frosts were seen. There is an almost unlimited supply of wood for fuel. No stone-quarries were noted. The underlying rock consists of the ordinary trap and granite with an occasional quartz vein, some of which are reported to be gold-bearing. The gravel bars along the river also carry gold. No traces of coal were found. Game is rather scarce and consists of black bears, deer and grouse. Trout are plentiful in the river. The area of land suitable for agriculture in this township is very small. A settler located in the northwest quarter of section 7 has successfully grown apples, hay and clover. A railway is under construction through the valley, the grading being now practically completed.

Tp. 6, R. 25, W. 6th Mer. *James Gibbon, D.L.S., 1914.*

(*Partial.*)—The wagon trail from Hope runs through the valley of the Coquihalla river. There is also a railroad under construction, the grading being now practically completed. On either side of the river rocky mountain ranges rise to a height of about 4,000 feet. The slopes are generally between 20 and 40 degrees and reach within 10 to 20 chains of the river. They are heavily timbered with cedar, fir and hemlock, from 12 to 36 inches in diameter, with a few scattered fir and cedar up to 60 inches. The soil of the slopes consists of a rather thin layer of sandy loam and vegetable mould overlying broken rock and stone. The bottom land is heavily timbered with large cedar and fir. The soil here consists of sandy loam to a depth of from 6 to 12 inches and would no doubt be suitable for agriculture but it would be very difficult to clear. Pierre river, which is about 1 chain wide and from 1 to 2 feet deep, joins the Coquihalla river in the southwest quarter of section 2. This stream flows from the southeast through a narrow valley with little or no bottom land. The sides of the valley are high, steep, rocky and timbered with fir, cedar and hemlock of more or less commercial value. Dewdney creek, which joins the Coquihalla river in section 13, flows from the southeast through a valley similar to that of Pierre river. This stream is 25 feet wide, 12 feet deep and has a current of about 3 or 4 miles per hour. T.B. No. 458 is situated a few miles up the valley. Ladner creek, a stream of 50 feet in width and 15 inches in depth, joins the Coquihalla river in the northeast quarter of section 24. This valley contains no land of agricultural value, but there is considerable good timber, consisting of fir, hemlock and cedar up to 60 inches in diameter. This timber extends to a distance of 2 or 3 miles from the mouth of the creek and is found on low ridges. There is no hay nor grass lands. The water is fresh and of good quality, being supplied from mountain sources. The Coquihalla river varies from 2½ to 3 chains in width and from 2 to 4 feet deep, and has a current of from 5 to 8 miles per hour. No land is likely to be flooded. There are no falls nor favourable locations for dams. The climate is pleasant with no extreme heat or cold. There is a sufficient rainfall to ensure an abundant growth. Very few indications of summer frosts were

seen. There is an unlimited supply of wood for fuel. No stone especially suited for quarrying purposes was seen. The underlying rock consists of trap and granite with protruding quartz ledges. Some good gold prospects are reported in the vicinity of sections 14 and 15. Placer gold is being washed from the gravel bars of the river. A few prospectors have been so engaged throughout the summer and report fair results. Game is scarce, owing no doubt to the constructions of the railway. Trout are found in the Coquihalla river.

Tp. 7, R. 25, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is extremely mountainous in character. Snowy summits in the eastern sections rise to an altitude of 5,500 feet above sea level, with rocky slopes draining west into the Fraser river and south into the Coquihalla river. The only bench land found within the township is in the bottom of canyon like ravines. No land of agricultural value or suitable for fruit growing was found but some fir up to 36 inches diameter are scattered through the ravines, of timber value. The forest growth, however, is generally scrubby consisting of fir, hemlock, vine maple, balsam and jack pine of little timber value.

Tp. 8, R. 25, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character. In the south eastern sections the mountains rise to 5,000 feet above sea level. From these mountains a long spur runs through the central sections about 3,400 feet in altitude, with steep rocky slopes west to the Fraser river and east to the Anderson river. The only lands suitable for fruit growing or agriculture were found in section 7 on a bench known as Sailors Bar, and consist of about 25 acres. The soil is sandy loam, 50 per cent fruit land. The other bench land slopes were so rocky and precipitous as to be useless except as timber land.

The forest growth consists of scrubby fir, hemlock, balsam, jack pine and vine maple of very little timber value. Poor grazing is to be had in old brulé in the northern sections. This is used at present by the Indians who run a considerable number of horses and cattle over as far as the Anderson river.

A. E. Hunter, D.L.S., 1913.—(Partial.)—This township is mountainous and no lands likely to be of use for agriculture were found. The timber is generally fir, varying from 20 to 60 inches in diameter and is found along the Fraser river. No areas of timber land were seen suitable for timber berths. The creeks are generally small and dry up in July and August. Indications of gold-bearing rock have been found in the easterly half of the township, but prospectors have failed to find mineral in large quantities. During the months of May and June the rainfall was abundant. July and August were very hot with little or no rainfall. The autumn months were also wet, and in November snow came down the mountainsides to within a few hundred feet of the river. Martens, bears, deer, mountain goats, as well as partridges and rabbits, are found on the hills adjoining the river.

Tp. 9, R. 25, W. 6th Mer. *A. V. Chase, D.L.S., 1912.*

The inner valley of Anderson creek was not included in the examination.

The western part of the township is composed almost wholly of rocky mountains with scattered stunted fir and pine.

Tp. 10, R. 25, W. 6th Mer. *A. V. Chase, D.L.S., 1912.*

This township was not covered in examination but such of the west part of it as is in plain sight is composed of rough rocky hills with small sized fir and pine.

Tp. 5, R. 26, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

Fractional part northwest of the Fraser river consists almost entirely of rugged bench land slopes. The only land suitable for fruit growing or agriculture is found on small benches in secs. 8, 17, 18, 21 and 27. This land is badly broken by rocky cliffs and in many cases almost inaccessible.

The forest growth consists of thick scrubby vine maple, birch, willow and alder at low altitudes and scrubby hemlock, fir and cedar on the high land. Some fir and hemlock of merchantable value are found in secs. 32 and 33 while scattered throughout the township are fir and cedar up to 4 feet in diameter, but not in sufficient quantity to be merchantable.

SEC. 7 (FRAC.)—Bench land sloping steeply from 1,500 to 110 feet above sea level; very rocky and broken by cliffs and deep ravines; few small patches of stony loam soil, of poor value, on little benches; timber land, fir up to 30 inches diameter in scrub vine maple, birch, alder and hemlock of little merchantable value.

SEC. 8 (FRAC.)—Bench land broken by rocky hills from 550 to 120 feet above sea level; very rocky with few small patches of stony sandy loam soil of little value; timber, scattered fir up to 30 inches diameter in thick scrub hemlock, alder, birch, vine maple and jack pine.

SEC. 16 (FRAC.); SEC. 17 (FRAC.)—Rocky, rolling bench land from 1,200 to 125 feet above sea level; broken by precipitous cliffs and ravines; scattered small benches not disposed of, but soil light, stony, sandy loam of poor quality and almost inaccessible; timber consists of thick hemlock, fir and cedar scrub with scattered fir up to 3 feet in diameter.

SEC. 18; SEC. 19 (S.E. $\frac{1}{4}$); SEC. 20 (FRAC.)—Rocky, rolling bench land from 2,600 to 500 feet above sea level; very rugged and precipitous, with little soil over rock; thick scrub fir, cedar, hemlock, birch and vine maple, with a few scattered fir up to 3 feet diameter.

SEC. 19 NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Precipitous, rocky upland sloping from 2,200 to 3,200 feet above sea level; very mountainous with thick scrub fir, hemlock, cedar, and balsam scrub, few scattered fir up to 30 inches diameter.

SEC. 21 (FRAC.).—Part undisposed of consists of rocky, rolling bench land from 1,500 to 300 feet above sea level; some small benches of red sandy loam; 20 per cent fruit land; thick fir scrub with no timber of value.

SEC. 22 (FRAC.); SEC. 27 (FRAC.).—Rocky slopes to Fraser river, with small flats of alluvial soil composed of coarse gravelly sand; 50 per cent fruit land; from 500 to 220 feet above sea level; thick fir, hemlock, birch and alder scrub of no timber value.

SECS. 28, 29, 30.—Very rocky steep slopes from 2,500 to 500 feet into American creek; no benches of soil suitable for fruit growing; thick hemlock and fir up to 18 inches diameter, of no timber value.

SEC. 31.—Mountain slope from 3,200 to 1,500 feet above sea level; very rocky and precipitous; NW. $\frac{1}{4}$ upland; timber land, thick fir, cedar, hemlock and balsam up to 24 inches diameter, of little timber value.

SECS. 32, 33; SEC. 34 (FRAC.)—Rocky precipitous slopes from 2,200 to 250 feet above sea level; very mountainous; timber land covered with thick fir and hemlock up to 30 inches diameter, of fair timber value; in timber berth 397.

W. J. Johnston, D.L.S., 1913.—(Partial.)—The soil in this township is a sandy loam with many boulders near the foot of the mountains, caused by rock slides. The land is all timbered except in some of the settled parts where small clearings have been made. The timber consists of fir, cedar, hemlock, spruce, birch and poplar. The best timber is situated on the mountainsides on either side of the Fraser river. No hay was found. The water is of fine quality and consists of cold mountain streams of fresh water. These streams vary from 1 foot in depth at low water to 2 or 3 feet

at high water. There are three or four water-power sites at the canyon on the Coquihalla river, but these are already taken up. The climate is mild with cool nights and there were no summer frosts. There are no mosquitoes or flies in this valley owing to their being no sloughs for breeding. There are no coal indications, but wood for fuel is found everywhere. No stone-quarries were seen. The rock consists of a metamorphosed sedimentary series represented by slates, schists, quartzites and bands of crystalline limestone. Gold indications are general, but not sufficient to warrant mining. Galena and arsenic sulphide are also found. Game is plentiful on the mountains and consists of deer, sheep, goats, bears and cougars. The best land is taken up by Indian reserves, though some good agricultural land exists in sections 21 and 28, east of Yale Indian reserve No. 14, and also in section 8. Fir, cedar and hemlock timber is found up to 4 feet in diameter, but it is scattered. All other varieties range to about 2 feet in diameter. Fishing is good in all the small creeks, the fish being mostly mountain trout. A few sturgeon were caught in the Fraser river by the Indians. During the months of July and August there was a large run of salmon. The sockeyes were first seen in the latter part of June. These were followed by the humpbacks in August.

Tp. 6, R. 26, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township contains the Fraser River valley with the rocky precipitous mountain slopes from the mountains on the east and west. Very little land suitable for fruit growing remains undisposed of and many of the river benches now disposed of are so rocky and the soil so light that the attempt to raise fruit has proved a failure.

The soil consists of a coarse sandy loam made very porous by the admixture of decomposed limestone rock of the neighbouring mountains. This makes irrigation almost a necessity and renders the higher benches nearly useless as fruit lands.

The timber is generally scrubby, consisting of fir, hemlock and balsam with some scattered fir and cedar up to 4 feet in diameter in timber berths 395, 396 and 424.

SEC. 1; SEC. 2 (FRAC.); SECS. 11, 12, 13, 14.—Very rugged steep mountain slope to Fraser river from 3,000 to 160 feet above sea level; soil very shallow with bare rock in many places; no land found that could be considered suitable for fruit growing; scrubby fir, willow and birch with scattered fir up to 30 inches diameter, of fair timber value.

SEC. 3 (FRAC.); SEC. 10 (FRAC.)—Benchland from 500 to 160 feet above sea level, along the Fraser river around Indian reservation; small stony benches with shallow light sandy soil; 20 per cent fruit land; broken by rocky hills; scrubby fir, hemlock, willow and birch of no timber value.

SEC. 4; SEC. 5 N.E. $\frac{1}{4}$, S.E. $\frac{1}{4}$, S.W. $\frac{1}{4}$.—Rocky mountain slope from 2,600 to 300 feet above sea level; little soil over rock; timber land stocked with fir and hemlock up to 24 inches diameter, of coming timber value. In timber berth 395.

SEC. 5 N.W. $\frac{1}{4}$; SEC. 6; SEC. 7 S. $\frac{1}{2}$; SEC. 8 S.W. $\frac{1}{4}$ —Rocky upland; very rugged and broken by cliffs and ravines; from 3,200 to 2,200 feet above sea level; timber land stocked with fir, hemlock and balsam up to 30 inches diameter and of coming timber value.

SEC. 7, N. $\frac{1}{2}$; SEC. 8, N.W. $\frac{1}{4}$, N.E. $\frac{1}{4}$, S.E. $\frac{1}{4}$; SEC. 9.—Rocky bench land slopes from 2,700 to 400 feet above sea level; very little soil over rock; timbered land stocked with fir, cedar and hemlock up to 36 inches diameter, of fair timber value. In timber berth 395.

SEC. 15 (FRAC.); SECS. 16, 17; SEC. 18, S. $\frac{1}{2}$; SEC. 20, S. $\frac{1}{2}$; SEC. 21; SEC. 22 (FRAC.)—Steep rocky bench land slopes from 2,600 to 200 feet; very rugged and broken hills with little soil over rock; timber land heavily covered with fir and cedar, up to 4 feet in diameter on lower bench lands. In timber berth 395 and timber berth 424.

SEC. 18 N. $\frac{1}{2}$; SEC. 19; SEC. 20 N. $\frac{1}{2}$; SEC. 31; SEC. 32 N.W. $\frac{1}{4}$.—Mountainous upland sloping from 3,500 to 2,000 feet above sea level; very rocky and broken by cliffs; scrubby fir, balsam and hemlock of little timber value

SEC. 23 (FRAC.); SECS. 24, 25; SEC. 26 (FRAC.); SECS. 35, 36.—Very steep rocky bench land, sloping down to left bank of Fraser river; from 3,000 to 200 feet above sea level; little soil over rock on mountain side, cut by deep ravines; timber land covered with thick scrubby fir, hemlock, willow and birch with scattered fir up to 30 inches diameter, of some timber value.

SEC. 22 (FRAC.); SEC. 27 (FRAC.); SEC. 34 (FRAC.).—Bench land sloping from 1,500 to 200 feet above Fraser river; small bench runs parallel to river $\frac{1}{4}$ to $\frac{1}{2}$ mile wide bordering disposed of lands composed of coarse sandy soil of varying depths and poor agricultural value; 45 per cent fruit land; irrigation almost necessary; birch, maple and hemlock brush in old brûlé.

SECS 28, 33.—Bench land sloping from 2,500 to 400 feet above sea level; a nearly level flat on top of hills on both sides of Emery creek; soil coarse, sandy loam of poor agricultural value; 20 per cent fruit land; altitude above 2,000 feet with nearly perpendicular slopes to creek; timbered with fir and cedar up to 4 feet diameter and good timber value. In timber berth 395.

SEC. 29, 30; SEC. 32 N.E. $\frac{1}{4}$, S.E. $\frac{1}{4}$, S.W. $\frac{1}{4}$.—Bench land with very precipitous slopes, from 2,000 to 700 feet above sea level; rocky timber land stocked with fir, cedar and hemlock, up to 48 inches and good timber value. In timber berth 395 and timber berth 424.

W. J. Johnston, D.L.S., 1913.—(Partial).—The land lying east of the Fraser river was reached by means of a hand car from our camp at Hope. The work consisted of subdivision and tying in the right of way of the Canadian Northern Pacific railway on the east side and the Canadian Pacific railway on the west side of the river. The easterly boundaries of sections 3, 10, 15, 22, 27 and 34 were run and the left bank of the Fraser river traversed. To reach our work on the west side of the Fraser river we crossed the river at Hope on the ferry and thence by wagons over the Yale wagon road to Choate. This road between Hope and Yale is gradually getting into poor condition as nothing is being done to keep it in repair. The east boundaries of sections 9, 16, 21 and 28 were run over rough mountainous country. The soil is a sandy loam with a gravel subsoil. Farming in this township will in all probability have to be carried on by irrigation. This method is now being adopted in Lot 65, Group 1, and there is plenty of water available. The land is very suitable for both vegetables and fruit growing, there being a fine apple orchard in the southeast quarter of section 27. This land is all timbered with scattered fir, cedar and hemlock up to 4 feet in diameter. The greater part of the timber, however, is under 2 feet in diameter, and consists of balsam, birch, fir, hemlock and poplar with heavy underbrush. No hay was seen. Fresh-water creeks are frequent on both sides of the Fraser river. They are about 1 foot in depth and flow at the rate of about 4 miles per hour near the mouth. No water-powers were observed. In summer the days are very warm with cool evenings. The snowfall is light and remains only for a few weeks. Wood for fuel may be obtained anywhere in the township. No stone-quarries exist. The rock consists of a metamorphosed sedimentary series, represented by slates, schists, quartzites and bands of crystalline limestone. The mountains range from 2,500 to 5,000 feet in height on either side of the Fraser river and occupy almost the entire township. There are gold indications in the quartz, but not in paying quantities. A placer lease is being worked in low-water below Strawberry island. Game is scarce and consists of deer, bears, cougars, with mountain sheep and goats higher up on the mountains. Grouse are fairly plentiful. There is a very large run of salmon during July and August, chiefly the sockeye and humpback varieties. Mountain trout are plentiful in the creeks.

Tp. 7, R. 26, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is very mountainous in character. The Fraser river flows through the eastern sections in a deep canyon with high mountains rising from the water's edge. The only lands suitable for fruit growing were found in section 2 on a small rocky bench about 300 feet above sea level, consisting of about 90 acres; 35 per cent fruit land. In sec. 10 on small benches along Gordon creek about 500 feet above sea level, composed of coarse sandy loam soil and 40 per cent fruit land. In secs. 10 and 35 in several small benches near the Fraser river of about 10 acres in a place of stony sandy loam soil, 30 per cent fruit land. The remaining benchlands are too steep and rocky to be suitable for agriculture or fruit growing, as irrigation is necessary on these lands.

The timber growth is generally scrubby, the only merchantable timber found in workable quantities being in the Yale Creek valley and consisted of fir and cedar up to 30 inches diameter.

*P. Melhuish, D.L.S., 1912.—(Partial).—*The only work done in this township was the survey of the northwest quarter of section 36. There is a small flat in this quarter-section which might be suitable for growing vegetables and fruit if it were irrigated. This could be done from Fivemile creek which flows through the quarter-section. The township is reached by the main line of the Canadian Pacific railway. The surface is almost entirely mountainous and very rocky. Fir and jackpine grow on the mountain sides but the timber will be difficult to get out. There is no hay. The water is fresh and the supply sufficient for the part of the township seen. Fivemile creek flows all the summer and at the time when the Yale and Cariboo trail was used as a means of reaching Ashcroft, the creek was used as a watering-place. There is not sufficient water-power for the generation of electricity. The climate is dry in the summer time and summer frost is rare. No coal-bearing formations were seen, but fir and jackpine form a plentiful supply of fuel. The stone is not of a kind suitable for building. No minerals of economic value were found. Bears, deer and mountain goats are found at a short distance from the railway line.

*W. J. Johnston, D.L.S., 1913.—(Partial).—*The work in this township consisted of subdivision and tying in the Canadian Pacific and Canadian Northern Pacific railways. The soil is a sandy loam with gravel subsoil and is suitable for fruit and gardening purposes. Near the mountains there are a large number of boulders. There is some good land in sections 2 and 11 and in the centre of section 10. The timber is much the same throughout the township and consists of scattered fir, cedar and hemlock up to 3 feet, with birch, balsam, poplar and spruce up to 2 feet in diameter. Some timber has been cut in the southeast quarter of section 11. No hay was encountered. There are numerous fresh-water creeks, the average depth being about 1 foot and the current about 4 miles per hour. No water-powers were observed. In summer the days are rather warm with cool nights. Wood for fuel is available throughout the township. There are no stone-quarries. The rock consists of a metamorphosed sedimentary series represented by schists, quartzites and bands of crystalline limestone. Placer gold is being mined on Siwash creek, and quite an amount of money has been expended in tunnelling. The sands of the Fraser river also contain gold, though they have been pretty well washed in the past. Game is scarce and consists of bears and deer. Mountain goats and sheep are found high up on the mountains, which are from 3,000 to 5,500 feet high. There was a large run of salmon this year in the Fraser river consisting of sockeyes and humpbacks. Mountain trout abound in the small creeks.

Tp. 8, R. 26, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character, but has considerable benchland that may be classified as fruit land. The Fraser river flows through the eastern sections with narrow benches in its valley of land of agricultural value. Spuzzum creek flows through the centre of the township with lofty mountains on either side in a narrow

deep valley to join the Fraser river in sec. 24. The best benchland is found south of Spuzzum creek in secs. 10, 11, 13, 14 and 15, consisting of a gentle slope well timbered with fir and hemlock up to 36 inches in diameter. Elsewhere throughout the township the timber is scrubby, having been burnt over within recent years.

SECS. 1, 2 3.—Benchland from 2,600 to 240 feet above sea level, consisting of very rugged mountainous slopes to the Fraser river; very rocky timber land except northwest $\frac{1}{4}$ of sec. 2 where bench of sandy loam soil 2,000 feet above sea level; is considered 20 per cent fruit land, and is covered with fir and hemlock up to 30 inches diameter, of fair timber value.

SECS. 4, 5, 6, 7, 8, 9, S. $\frac{1}{2}$.—Mountainous upland sloping from 4,500 to 2,000 feet above sea level; very rocky timber land covered with scrubby fir, hemlock and balsam, of little timber value.

SEC. 9, N. $\frac{1}{2}$; 10.—Benchland consisting of very steep rocky slope, from 2,800 to 550 feet above sea level; timber land except some small benches in L.S. 1 and L.S. 8, sec. 10, of sandy loam suitable for agriculture; 20 per cent fruit land; heavily timbered with fir and hemlock up to 30 inches in ravines, of some timber value.

SEC. 11.—Benchland sloping from 2,000 to 800 feet above sea level, in a long slope of sandy loam soil of varying depths from 3 to 36 inches and fair agricultural value; 50 per cent fruit land; could be irrigated from small creeks; heavily timbered with fir and hemlock up to 36 inches diameter, of good timber value. In timber berth 398.

SEC. 12 (FRAC.)—Benchland composed of rocky ridges sloping from 2,200 to 230 feet above sea level; small benches in L.S. 8 and 9 along Fraser river of sandy loam soil suitable for agriculture and 30 per cent fruit land; scrubby fir and hemlock with few trees of merchantable value. John Robertson, squatter, on L.S. 8 with small shack and garden.

SEC. 13, (FRAC.); 14, (FRAC.); 15, N.E. $\frac{1}{4}$.—Benchland along Spuzzum Creek very much broken by ravines and rocky ridges but with benches of deep sandy loam of 25 per cent fruit land; heavily timbered with fir and hemlock up to 30 inches diameter, with patches of recent burn with all the underbrush killed.

SEC. 15, N.W. $\frac{1}{4}$; S.E. $\frac{1}{4}$; S.W. $\frac{1}{4}$; 16 to 23.—Benchland consisting of rocky precipitous slopes into canyon of Spuzzum Creek; from 2,600 to 400 feet above sea level; timber land heavily timbered with fir and hemlock up to 36 inches along creek, becoming scrubby on upper slopes.

SEC. 24, (FRAC.); 25, (FRAC.).—Benchland sloping to Fraser river from 1,000 to 250 feet above sea level; small benches of stony loam soil along river, of poor agricultural value. Mrs. W. J. Kimm, squatter on L.S. 14, sec. 24, and L.S. 3, sec. 25, with 15 acres under cultivation, good house and barn. John Marcel and James Punch, squatters on L. S. 13 with small shacks and garden patches of 2 acres each. Scrubby fir, hemlock, birch and vine maple in brulé, of little timber value.

SEC. 26, 35.—Very rocky mountain slope from 400 to 2,800 feet above sea level, covered with scrubby fir, vine maple and birch in old brulé, with poor grazing.

SEC. 27, 28; 29, N.E. $\frac{1}{4}$; N.W. $\frac{1}{4}$; S.E. $\frac{1}{4}$; 30, N.E. $\frac{1}{4}$; 31, 32, 33, 34.—High limestone mountain ridge from 4,500 to 2,200 feet above sea level; very rocky with scattered scrubby fir, balsam and hemlock of no timber value.

SEC. 29, S.W. $\frac{1}{4}$; 30, N.W. $\frac{1}{4}$; S.E. $\frac{1}{4}$; S.W. $\frac{1}{4}$.—Very rocky steep slopes to Spuzzum Creek, sloping from 2,600 to 1,000 feet; heavily timbered along creek with fir and hemlock up to 36 inches diameter of good value, with scrubby fir and hemlock on upper slopes. In T. B. 410 (3) and (4).

SEC. 36.—Benchland along Fraser river, sloping steeply from mountains, with small benches along river of sandy loam soil; 20 per cent fruit land. Squatter, Ink-mann's store and garden in L.S. 4, occupying about 5 acres. Scrubby fir, hemlock and vine maple in old brulé; with a few fir of timber value near river on east side.

*P. Melhuish, D.L.S., 1912.—(Partial).—*This township is reached by the main line of the Canadian Pacific railway which passes through the eastern portion in a north and south direction. There is one flag station within the township known as Spuzzum; it lies in section 36. There is also a siding in the southeast of section 12, known as Saddle Rock, where local passenger trains can be stopped. Spuzzum also contains a post-office and one store. There is very little good land in this township, the portion that exists consisting of small flats which need irrigation to make the soil productive. The soil is gravelly and contains large boulders of granite rock. The surface is mountainous after leaving the small flats adjacent to the Fraser river, and in places the mountains rise abruptly from the river. About a thirty-sixth of the township could be considered flat and suitable for agriculture. The other parts consist of high mountains timbered with fir and jackpine, a great part of the timber being too high and on mountains too rugged to be at present available. Timber berth No. 552 lies partly in this township along the valley of Spuzzum creek, and contains some good cedar, fir and hemlock near the creek. Some hay is grown by the Indians for their own horses on Spuzzum Indian reserve No. 1, which is a good piece of land, producing some fine fruit and vegetables. All the water in the township is fresh and comes from the Fraser river and the mountain creeks. There is only one stream of any size, Spuzzum creek, flowing in an easterly direction across the township and emptying into the Fraser river in section 24. This creek has an average width of 40 feet and an average depth of 3 feet. The supply of water in this creek is permanent, but there are no falls high enough for the generation of electric power and there is hardly sufficient water during the time of low-water to warrant the construction of a dam. The climate is dry during the summer. There was more rain during the season of 1912 than usual. Rain and snow come in the mountains in the early autumn, but summer frosts are exceptional. No coal-bearing formations were found; fir and other timber being used as domestic fuel. There is a sawmill in section 36 on the east side of the river; it is run by a gasoline engine. The stone in the vicinity is not suitable for building purposes but could be used for road or concrete work. No minerals of economic value were seen. Bears, deer and mountain goats are found a few miles back from the railway line. Spuzzum creek contains numerous brook trout and salmon are caught in the Fraser river by the Indians.

*A. E. Hunter, D.L.S., 1913.—(Partial).—*In this township there are several small benches of land of from 5 to 10 acres in extent on the east side of the Fraser river in sections 13 and 24. This land is generally stony, and the soil is usually a sandy loam with a gravelly or rocky subsoil. Although the rainfall in May and June is abundant, the land is so well drained that a few hot days in July are sufficient to destroy the vegetation unless the land is irrigated. When properly irrigated, however, the land is very productive, and the common garden vegetables and fruits may be grown to advantage. No lands likely to be soon required for agricultural purposes were found outside the lands surveyed in the township. Fir, varying from 20 to 60 inches in diameter, is found fairly uniformly scattered on the hills adjoining the river. Good strips of fir and cedar were seen on the benches and in the ravines along the creek in section 36. No hay was found. With the exception of Spuzzum creek, the streams in this township are small, varying from a few inches to 30 feet in width and from 1 to 6 inches in depth; they are of no value as power producers. The streams that do not actually dry up in July and August are greatly reduced in volume. No minerals were found, although rock found along Spuzzum creek shows some indications of gold. During the months of May and June the rainfall was abundant. July and August were very hot with little or no rainfall. The autumn months were also very wet, and in November the snow came down the mountainsides to within a few hundred feet of the river. Martens, bears, deer and mountain goats, as well as partridges and rabbits, are found on the hills adjoining the river.

Tp. 9, R. 26, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is very mountainous and rugged in character. The Fraser river runs through the eastern section in the Black Canyon with mountain walls rising from the water's edge. The only lands suitable for fruit growing or agriculture are in sec. 1, 2 and 12, consisting of benches along the Fraser river. The bench in secs. 1 and 12 consists of about 80 acres, the greater part of which is meadow land and apple orchards, squatted on by Indians. The soil is rich and yields fine hay and fruit; 80 per cent fruit land. The bench in sec. 2 consists of about 120 acres just north of a small Indian reservation. The soil is coarse sandy loam suitable for fruit growing; 35 per cent fruit land.

The timber consists of fir up to 36 inches diameter in ravines, of some value but on the higher slopes the forest growth becomes scrubby, consisting of fir, balsam, hemlock and jack pine of no timber value.

*A. V. Chase, D.L.S., 1912.—(EAST OF THE FRASER RIVER).—*Little detail examination was made of this area. It is composed almost wholly of rocky mountains which rise from the water's edge of the Fraser river to a summit having an elevation of possibly 4,000 feet above the sea. All is more or less timbered with scrubby pine and fir.

SEC. 2.—The only piece of land in the above area having value is in the north east quarter of this section. A rough slope which is covered with an amount of timber good for ties is situated there. A mill was in operation at the time of examination, on this area.

As an agricultural proposition this area seems of little value on account of its ruggedness.

The remaining flats along the river lie within the land already disposed of.

*A. E. Hunter, D.L.S., 1913.—(Partial).—*A fairly good tract of agricultural land was found in the westerly half of section 2 and the easterly half of section 3. A bench of about 10 acres was also found on the left bank of the Fraser river in the south-westerly quarter of section 1. The land in these areas is generally stony, and the soil is usually sandy loam with a gravelly or rocky subsoil. Although the rainfall in May and June is abundant, the land is so well drained that a few hot days in July are sufficient to destroy the vegetation unless the land is irrigated. When properly irrigated, however, the land is very productive and the common garden vegetables and fruits may be grown to advantage. With the exception of these areas and the lands surveyed into group lots or Indian reserves, this township is very mountainous. The timber is generally fir, varying from 20 to 60 inches in diameter, and although found scattered fairly uniformly, is not in sufficient quantities to be reserved as timber limits. No hay was found. The mountain creeks for the most part are small and, although rapid, have not enough volume to develop much power. A stone-quarry is in operation in the northwest quarter of section 34, and gray granite of very good quality for construction purposes is shipped. No minerals have been found in this township. During the months of May and June the rainfall was abundant. July and August were very hot with little or no rainfall. The autumn months were also very wet, and in November snow came down the mountainsides to within a few hundred feet of the river. Martens, bears, deer and mountain goats, as well as partridges and rabbits, are found on the hills adjoining the river.

Tp. 10, R. 26, W. 6th Mer, *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character but has considerable benchland. The Fraser river runs south through the central sections in a narrow valley, while the Scuzzy river from the west and the Anderson river from the east join the Fraser in sec. 10 and 22, thus forming breaks in the mountain walls

Along the Fraser the greater part of the benches of agricultural value have been disposed of, leaving but small plots of land suitable for cultivation or orchards. The Anderson river also has no benches, unalienated, suitable for fruit growing, flowing in a very deep canyon through the eastern sections. But the Scuzzy river has considerable benchland along its course which should prove good fruit land. At present this is difficult of access and heavily timbered with fir and cedar up to 40 inches diameter.

On the rocky mountain slopes little merchantable timber is found, the forest consisting of jack pine, balsam, hemlock and fir getting very scrubby and scattered at high altitude. Poor grazing is found among the scattered jack pine, used by the Indians.

SEC. 1; SEC. 2, E. $\frac{1}{2}$.—Upland slopes from 3,900 to 2,200 feet above sea level; very rocky and mountainous covered with scrubby jack pine, balsam, hemlock, fir and vine maple of no timber value.

SEC. 2 W $\frac{1}{2}$; SECS. 3, 4.—Benchland slopes from 2,800 to 319 feet above sea level; very rocky and steep mountain slopes into Fraser river canyon; the forest growth is scrubby, consisting of fir, hemlock and vine maple with a few fir up to 36 inches diameter on small ledges.

SECS. 5, 6; SEC. 7 S. $\frac{1}{2}$; SEC. 8, SW. $\frac{1}{4}$.—Mountainous upland slopes from 5,500 to 2,400 feet above sea level; very rocky with avalanche swept slopes; forest growth, very scrubby balsam jack pine, fir and hemlock of no timber value.

SEC. 7 N. $\frac{1}{2}$; SEC. 8 SE. $\frac{1}{4}$, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$; SEC. 9.—Very steep sloping benchland into Scuzzy river, from 2,600 to 500 feet above sea level some small benches about 200 yards wide along river, of stony loam soil, 30 per cent fruit land; heavily timbered at lower altitudes with fir, cedar and cottonwood up to 36 inches diameter.

SEC. 10 (FRAC); SEC. 11 (FRAC); SEC. 14 (FRAC).—Very rocky steep sloping benchland to the Fraser river canyon; several small benches of from 5 to 10 acres in a place of rich alluvial soil, generally cleared and squatted on by Indians; scrubby fir, hemlock and jack pine of no timber value.

SECS. 12, 13.—Very mountainous rocky upland sloping from 3,500 to 2,000 feet; covered with scattered scrubby jack pine, balsam, hemlock and fir.

SEC. 15; SEC. 16, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 17, S. $\frac{1}{2}$.—Bench land sloping to Scuzzy and Fraser rivers; very rocky abrupt cliffs along the Fraser, but on shoulder of mountain about 2,200 feet above sea level a nearly level bench is found having 18 inches sandy loam soil; 50 per cent fruit land; this good land runs westward down to the Scuzzy river and forms a river bench, thus containing in all some 500 acres; it is timbered with fir up to 4 feet in diameter, scattered through willow, hazel, birch and vine maple underbrush.

SEC. 17, N. $\frac{1}{2}$; SEC. 18; SECS. 19, 20; SEC. 21, W. $\frac{1}{2}$.—Upland slopes from 4,500 to 2,000 feet above sea level; very rocky land covered with scrubby willow, fir, hemlock, balsam and jack pine, with patches of poor grazing.

SEC. 21, E. $\frac{1}{2}$; SEC. 22 (FRAC.); SECS. 23, 24; SEC. 26 (FRAC.); SEC. 27 (FRAC.); SEC. 28.—Bench land sloping from 2,600 to 330 feet into the Fraser and Anderson rivers; very rocky and precipitous country, with a small bench of meadow land of 10 acres in L.S. 9, sec. 22; 75 per cent fruit land; remaining lands suitable only for timber land and now stocked with scrubby fir up to 30 inches in diameter in willow, hemlock and vine maple underbrush.

SECS. 29, 30, 31, 32; SEC. 36, E. $\frac{1}{2}$.—Upland, very rocky and steep slopes covered with scrubby fir, balsam and jack pine in willow and vine maple underbrush; poor grazing, used by Indians for their ponies.

SEC. 33; SEC. 34 (FRAC.); SEC. 35; SEC. 36, W. $\frac{1}{2}$.—Steep bench land slopes from 2,800 to 360 feet above sea level; very rocky and precipitous, with no land suitable for

fruit growing except a small bench in sec. 35, of about 30 acres on side hill, cleared by Indians and now a hay meadow; L.S. 10 and L.S. 16, sec. 34, on left bank of Fraser river are squatted on by Archibald Davis, and consist of stony benches poorly adapted for fruit growing. The forest growth consists of scrubby hemlock, fir and jack pine, of no timber value.

A. V. Chase, D.L.S., 1912.—EAST OF THE FRASER RIVER.—With the exception of the lands along the river bottom all of the lands in this area are composed of rough rocky mountains. They are mostly timbered but the timber is generally stunted and all of small size. Fir and a few bull pine.

PORTION SOUTH OF ANDERSON CREEK.—This is practically useless land. It arises quickly from the water's edge of the Fraser river and Anderson creek to an altitude of about 5,000 feet above sea in the southeast part of the township. The only land showing agricultural possibilities lies with Boston Bar Indian Reserve No. 1. The land is lightly timbered with small sized fir and scattering pine.

PORTION NORTH OF ANDERSON CREEK.—The land herein up to the base of the steep hills being all disposed of, detailed examination was not made. The remainder is almost useless except for an amount of fir and pine fit for ties in the lower parts. There is practically no grazing.

A. E. Hunter, D.L.S., 1913.—(*Partial.*)—In section 9 and in the easterly half of section 4 some land, which may be described as third- or fourth-class was found. This land is very dry and stony. Timber is found on the mountainsides and on the benches. There is no hay. No land suitable for agriculture was found outside the area surveyed in this township. The old wagon roads have been so cut off by the construction of the railway as to render wagons useless except for short hauls. The fuel available consists of fir and small birch which are found on the benches and hillsides. During the months of May and June the rainfall was abundant. July and August were very hot with little or no rainfall. The autumn months were also very wet, and in November snow came down the mountains to within a few hundred feet of the river. Martens, bears, deer and mountain goats, as well as partridges and rabbits, are found on the hills adjoining the river.

Tp. 4, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

The undisposed of part north of the Fraser river consists of the two fractional sections 30 and 31. These are made up of bench land sloping precipitously down from the mountains from 2,000 to 90 feet above sea level. Very little soil is found on the rocky slopes, but a few acres of river flat at the bottom of the slope is very fertile, having a rich sandy loam soil of great depth. This flat of about 15 acres is located just west of the Indian reserve and is 100 per cent fruit land.

The timber on the mountain slopes is fir, balsam and vine maple scrub in old *brulé*. On the river flat the timber consists of birch, maple and hemlock up to 18 inches in diameter, of some timber value.

A. Lighthall, D.L.S., 1912.—(*Partial.*)—This district is easily reached, being close to Ruby Creek, a station on the main line of the Canadian Pacific railway. The country here is more rolling than that farther down the river and there are a great many little valleys among the hills which would make fair agricultural land when the timber has been cleared off. The part surveyed is at present heavily wooded with fir, cedar and hemlock and would appear to be more suitable for a timber berth than for homestead lands. An abundance of fresh water is found and water-powers could be developed on any of the streams. The climate appears to be a little drier than farther west and high winds prevail, due probably to the narrowing of the valley of the Fraser river. Fuel is abundant in the form of wood but no coal is found. Deer and bears are plentiful and the small streams are full of mountain trout. There are also a few fur-bearing animals, principally martens and muskrats. The native rock is granite, which is unsuitable for building stone. No minerals of economic value have yet been found in quantity sufficient to justify development.

W. J. Johnston, D.L.S., 1913.—(Partial.)—This township is very rough and mountainous. The soil is a sandy loam and is well suited to the growing of fruit and vegetables, of which a large quantity is grown. The land is all timbered with second-growth fir, birch, balsam, spruce, poplar and cedar up to 12 inches with scattered fir and cedar up to 3 feet in diameter. No hay was encountered. Small fresh-water creeks are numerous, all being fed from the mountains. Wahleach creek is about 1 chain in width and 2 feet deep. A water-power on this creek has been reserved by the British Columbia Electric Railway Company. The climate is mild with cool evenings and there is very little snow except in the mountains which are about 5,000 feet high. Wood for fuel is very plentiful. The land is liable to be flooded at excessive high water. No stone-quarries exist. The rock consists of a metamorphosed sedimentary series represented by schists, quartzites and bands of crystalline limestone. A little placer mining is being done along the Fraser river. With the exception of grouse and rabbits, game is scarce. There was a heavy run of salmon in the Fraser river this year, and a few sturgeon were caught. Mountain trout are plentiful in the small creeks.

Tp. 5, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

The northern part of this township is covered by high mountains broken by the valley of Garnet river, which runs south through the centre of the township. Along Garnet river there are small benches of sandy loam suitable for fruit growing, and in the southern part of the township in the Fraser River valley there are occasional benches of fruit land yet undisposed of. The remaining lands are rocky timber land.

The forest growth consists of fir, hemlock and balsam of considerable merchantable value on the bench lands. The uplands are covered with balsam, fir and hemlock of very scrubby nature, with huckleberry undergrowth, the timber being of little value.

SEC. 4 (FRAC.).—Bench land sloping from 1,000 feet to 150 feet above sea level; high and rocky on west sloping down to nearly level bench in east half; soil very stony; 25 per cent fruit land; fir, cedar and hemlock up to 20 inches of some timber value, in willow and birch underbrush.

SEC. 5 (FRAC.).—Bench land broken by mountain ridge 2,000 feet high; very rocky and precipitous; useless except a narrow strip along west side of section composed of benches along Garnet river, of sandy loam, suitable 40 per cent fruit land; brulé, with vine maple and hemlock scrub.

SEC. 6, SW $\frac{1}{4}$.—Rocky bench land sloping from 2,000 to 500 feet above sea level; very rugged, with little soil on steep slopes; timber land, with hemlock and fir up to 20 inches diameter, of some timber value, best timber cut off.

SEC. 6, N. $\frac{1}{2}$; SEC. 7, S. $\frac{1}{2}$.—Bench land sloping from 1,500 to 200 feet above sea level; cut by rocky ridges but with wide benches and slopes of rich sandy loam soil of good agricultural value; 70 per cent fruit land; hemlock and fir up to 24 inches diameter, of fair timber value, in thick birch, willow and vine maple scrub; few large fir and cedar in timber berth V and timber berth 46.

SEC. 7, N. $\frac{1}{2}$.—Bench land sloping steeply from 2,000 to 600 feet above sea level; slope too steep and rocky for agriculture or fruit growing; timber land covered with thick fir, hemlock and cedar up to 30 inches diameter, of good timber value, in timber berth V.

SEC. 8, W. $\frac{1}{2}$.—Bench land along Garnet river sloping from 1,500 to 120 feet; Garnet river runs through deep canyon with small benches of sandy loam high above the river; 25 per cent fruit land; dense forest of hemlock, cedar and fir up to 24 inches diameter, of coming timber value.

E. $\frac{1}{2}$.—High rocky mountain ridge sloping from 2,800 to 1,500 feet; upland, very precipitous and useless except for timber land, hemlock and vine maple scrub with a few fir up to 36 inches diameter, of some timber value.

SEC. 9 (FRAC.).—Bench land sloping from 2,600 to 200 feet above sea level; very precipitous and rocky slope down from mountains on the west, with fir in gulches up to 36 inches diameter of fair timber value, in timber berth 509. At foot of cliff in L. S. 1, 2, 8 and 9 level swampy land is found, with rich sandy loam soil, of good agricultural value if drained, and 60 per cent fruit land; willow, birch and vine maple on low lands, of no timber value.

SEC. 13, (FRAC.).—Bench land slopes from 2,600 to 300 feet above sea level; precipitously mountainous country, consisting of rocky cliffs up from benches in L. S. 1 and L. S. 2 of fair agricultural land, having from 3 to 18 inches of sandy loam; 25 per cent fruit land; some fine fir and cedar in gulches up to 36 inches diameter, of good timber value. In timber berth 522.

SEC. 14, 15.—Bench land sloping precipitous from 2,600 to 250 feet above sea level; rocky cliffs with gulches timbered with fine fir, cedar, and hemlock up to 36 inches diameter, of good timber value. In timber berth 471 and timber berth 523.

SEC. 16.—Consists of a mountain ridge with rocky precipitous slopes from 3,400 to 1,000 feet above sea-level; mostly upland, useless except for timber land; scrubby fir, hemlock and balsam up to 18 inches diameter, of little timber value.

SEC. 17.—Slopes from mountains down to Garnet river; bench land from 2,600 to 600 feet above sea level; very rocky and precipitous except small benches of sandy loam soil along the river; 30 per cent fruit land; thick hemlock, fir and cedar up to 30 inches diameter, of fair timber value.

SEC. 18.—Rocky mountain slopes from 3,500 to 1,200 feet above sea level; little soil on steep slopes; timber land, thick scrubby fir, hemlock and balsam, of little timber value.

SECS. 19, 20, 21.—Bench land composed of rocky mountain slopes down to river valley, with small benches above canyon of sandy loam; 20 per cent fruit land; thick fir, hemlock, cedar and balsam up to 30 inches diameter, of coming timber value.

SECS. 22 to 36.—Rough, rocky mountainous country; upland, with peaks 4,000 feet above sea level; bench land along Garnet river and in mountain gulches, but slopes so steep and rocky as to be useless except as timber land.

Thick forests of hemlock, fir and balsam in valleys, up to 30 inches diameter, of coming timber value; on upper slopes trees are scrubby and stunted and of little timber value, with huckleberry undergrowth.

W. J. Johnston, D.L.S., 1913.—(Partial.)—The work done in this township was reached by means of a hand car from camps at Hope and Ruby Creek. The Yale wagon road runs along the south side of the Fraser river and is in fine shape. There is about half a mile of arable land along the left bank of the Fraser river. The Hope Indian reserve No. 4 is a very fine piece of land. The soil is a sandy loam with a gravel subsoil, and is very suitable for growing fruit, vegetables and grain. The low lands adjoining the river are flooded at excessive high water. The greater part of the township is composed of mountains from 2,000 to 5,000 feet in height, sloping to the Fraser river. The good timber is taken up principally in timber berths. It consists of fir, cedar, hemlock and spruce up to 4 feet and birch, balsam, poplar and alder up to 15 inches in diameter. No hay was noticed. The creeks are swift, fresh-water mountain streams, running about 4 miles per hour and having many pretty falls along their courses. No water-powers were found. The climate is mild with very little snow in winter except on the mountain tops. Wood suitable for fuel is found everywhere, but no coal nor lignite veins were discovered. There are no stone-quarries. The rocks consist of a metamorphosed sedimentary series represented by slates, schists, quartzites and bands of crystalline limestone. There is no mining being done at present. Garnets have been found in Ruby creek. There are plenty of mountain trout in the streams. A few sturgeon are caught in the Fraser. This year there was a heavy run of salmon during July and August. A few deer and bears were seen and grouse are plentiful.

Tp. 6, R. 27, W. 6th Mer. *P. Melhuish, D.L.S., 1914.*

This township is exceedingly mountainous in character. The Old Settler mountain in the north rises to an altitude of approximately 6,500 feet, with extensive snow fields. These are drained by Garnet river which flows through the south western sections in deep canyons. The benchland slopes to the river are too rocky and precipitous to be of agricultural value.

The township consists entirely of land suitable only for timber growing. The standing timber consists of fir, hemlock and cedar in the valleys up to 30 inches diameter and of coming value. On the rocky ridges of the mountains the timber is very scrubby, consisting of balsam, fir and hemlock of little timber value.

Tp. 7, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is characterized by lofty mountain peaks rising 6,500 feet above sea level. Vast snow fields are found on the high upland, rendering large areas worthless, while in the deep canyon-like ravines the balsam, fir, cedar and hemlock grow luxuriantly. No land of agricultural value or suitable for fruit growing was found within the township.

The merchantable timber is found entirely in the V-shaped ravines growing on nearly perpendicular slopes. Here fir and hemlock grow to a diameter of 3 feet, but on the uplands the trees become stunted and scrubby, with balsam and jack pine predominating and of little timber value.

Tp. 8, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is characterized by lofty mountains rising 6,500 feet above sea level. Large snow fields extend over the southern and western parts of the township rendering large areas worthless. No land was found within the township that could be considered of agricultural value or suitable for fruit growing.

The very steep stony slopes to Spuzzum creek and its tributaries are covered with a heavy forest growth of fir, cedar and hemlock of good merchantable value. The greater part of the valuable timber is included in timber berths. On the uplands the timber becomes scrubby, stunted and scattered at higher altitudes, with balsam and jack pine predominating. Very little timber of value is found above 2,500 feet above sea level.

Tp. 9, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is exceedingly mountainous in character. Spuzzum creek runs south through the centre of the township in a V-shaped valley between two ranges of mountains rising over 6,000 feet above sea level. The mountain slopes are very rocky and precipitous but below 2,500 feet in the Spuzzum Creek valley fir and cedar up to 30 inches diameter are found of merchantable value. The valuable timber is included in T.B. 410 (2). No land that could be considered of agricultural value or suitable for fruit growing was found within the township.

The timber on the upland becomes scrubby, stunted and scattered on higher slopes with balsam and jack pine predominating. Considerable areas above 5,000 feet in altitude on the western part of the township may be classified as worthless land, being under an almost perpetual snow field.

Tp. 10, R. 27, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character with the Scuzzy River valley running east through the centre of the township. The only benchland in the township lies in this valley and consists of steep mountain slopes down to small stony benches along the river. No land suitable for agriculture or fruit growing was found, but some merchant-

able timber was discovered along Scuzzy river consisting of fir, cedar and hemlock up to 36 inches diameter and of good value.

The uplands are covered with a scrubby stunted growth of balsam, jackpine, fir and hemlock of little timber value. On the higher slopes the forest growth becomes scattered and finally gives place to areas of bald rock with small snow fields.

Tp. 1, R. 28, W. 6th Mer. *R. B. McKay, D.L.S., 1913.*

This township is reached by taking the Mount Baker wagon road to section 34 of the township to the west where it ceases, and thence by the boundary trail which follows the course of the Chilliwack river to its junction with Slesse creek in sections 32 of this township. From here the old Hudson Bay trail continues up the Chilliwack river while the boundary trail runs southeasterly along Slesse creek to the southeast corner of this township. This latter trail is in fair condition and is being used by a pack-train freighting supplies to a mine on the American side. This township is very rocky and mountainous, is heavily timbered with large fir, hemlock, cedar and alder and has very little agricultural land. There is some land at the junction of Chilliwack river and Slesse creek which is cultivated, but garden truck and hay for the settler's own use are all that are grown as there is no available market for produce. The soil is sandy loam and is suited for fruit trees and garden truck of all kinds. There is plenty of fresh water but no water-power is available. The climate is mild with both a heavy rainfall and snowfall. No coal or lignite veins nor stone-quarries were seen. There are several gold and copper prospects near the boundary. The game consists of grouse, bears, deer and mountain goats, also trout in the streams.

Tp. 3, R. 28, W. 6th Mer. *P. Melhuish, D.L.S., 1914.*

(*Partial*).—The portion of this township to the north of the Fraser river is reached by the Canadian Pacific railway, the station of Agassiz being situated in section 30. The Canadian Northern railway runs on the south side of the river. The flat land to the north of the river has nearly all been cleared and cultivated. The various Indian reserves occupy a large proportion of this township. The soil on the flat land is alluvial. The upper soil is loam and the subsoil is gravel or hardpan. There is some good land on the mountains in sections 28, 29, 31 and 32. The sides of the mountains are steep but the soil is a deep, rich loam free from stones. It has been shown at the experimental farm at Agassiz that apples can be successfully grown on these mountains. There might be some difficulty in handling the fruit. The timber on the mountain sides consists of cedar, fir, birch, maple and alder. Most of the large fir and cedar has been cut or destroyed by fire. The size of the trees at present is about 18 inches in diameter. Hay does not grow wild, but enough is grown for local needs. The supply of fresh water is plentiful. Wells can be easily sunk, and water can also be obtained from the Fraser river and the mountain streams. The stream in lot 447 on the south side of the river was used for power purposes in connection with a saw-mill. This mill has not been working for some time. The climate in this township is good. Irrigation is not required and there are no summer frosts. The timber in the mountains is readily available for fuel, but there are no lignite veins. The stone is not suitable for building purposes but can be used for road metal. Bears, deer and mountain goats are found in the southern part of the township. The country in the vicinity of Agassiz is well suited to mixed farming. Four islands in the Fraser river were traversed in sections 15, 16 and 18. The soil on these islands is a sandy loam and is suitable for cultivation. There is a possibility of these islands being flooded at the time of high water (July). The chance of the island in section 18 being flooded is very small.

Tp. 4, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

The undisposed of lands in this township are found in the northern part between Harrison lake and the Fraser river. They consist for the most part of rocky mountain slopes, exceedingly precipitous in places, and useless except for timber growing. The

only lands suitable for fruit growing lie in small parcels in section 6, section 27, and sections 32, 33, and 34 and consist entirely of bench land now covered for the most part, with a heavy forest growth of fir and cedar of good timber value. The soil on these benches is usually a sandy loam of high fertility and when of sufficient depth produces excellent small fruits and garden truck.

SEC. 6, L.S. 1, 2.—Steep sloping benchland from 760 to 120 feet above sea-level; bench rises rapidly from bottom land for about 300 yards and then slope becomes gentle and soil a rich sand loam from 6 to 18 inches in depth, of good agricultural value; 60 per cent fruit land; scrub birch, alder, and vine maple, of no timber value.

SEC. 6, L.S. 3, 4.—Rolling benchland from 800 to 500 feet above sea-level; getting rocky to west, but greater part with good soil from 6 to 18 inches sandy loam; 60 per cent fruit land; scrub alder, birch, vine maple and hemlock of no timber value.

SEC. 6, L.S. 5, 6, 7.—Rolling benchland from 800 to 100 feet above sea level; greater part consists of too steep and rocky slopes to be valuable as fruit land; some small benches with 18 inches sand loam soil scattered through the parcel; 20 per cent fruit land; scrub birch, vine maple, alder in old brulé, no timber of value.

SEC. 6 L.S. 8 (FRAC.).—Benchland from 200 to 50 feet above sea level; about 10 acres bottom land partly cleared, remainder eastern slope with from 6 to 18 inches soil over loose rock, of good agricultural value; 80 per cent fruit land; birch, vine maple and alder, of no timber value.

SEC. 6, L.S. 10.—Benchland from 250 to 70 feet above sea level; about 5 acres bottom land with rich soil, of fine agricultural value; 75 per cent fruit land; remainder rocky hillside; brulé with little scrub birch, poplar and vine maple.

SEC. 6, L.S. 11, 14.—Rolling benchland from 300 to 100 feet above sea level; very rocky, with little soil on slopes; timber land, brulé with little vine maple and poplar scrub.

SEC. 7, S. E. $\frac{1}{4}$ (FRAC.) undisposed of.—Rocky ridge composed of benchland from 300 to 120 feet above sea level; very rocky and broken timber land, brulé with little vine maple and poplar scrub.

SEC. 7, N.E. $\frac{1}{4}$ (FRAC.) undisposed of.—Rocky ridge composed of benchland, from 700 to 70 feet above sea level; little soil over rock; timber land, scrub hemlock, vine maple and poplar in old brulé.

SECS. 8, 9, 15, 16 (FRAC.).—Precipitous sloping bench land, from 2,200 to 45 feet above sea level; very rocky timber land, brulé with scattered vine maple and fir scrub, large stubbs show that slope is capable of growing merchantable timber.

SEC. 17.—Steep mountain slope from 2,000 to 3,525 feet above sea level; very rocky upland; poor timber land, scrubby balsam, fir and vine maple with considerable brule in the southern parts, no timber of value.

SEC. 18 (FRAC.).—Bench land except northeast $\frac{1}{4}$ which is upland; from 3,200 to 30 feet above sea level, very rocky and precipitous, except L.S. 5 which is swampy bottom land of good agricultural value if drained; forest growth is scrubby fir, hemlock and balsam, of little timber value.

SEC. 19, (FRAC.); SEC. 20, N.W. $\frac{1}{4}$.—Rocky benchland, sloping precipitously from 3,000 to 30 feet; poor timber land covered with scrubby fir, balsam and hemlock, of little timber value.

SEC. 20, S.W. $\frac{1}{4}$; S.E. $\frac{1}{4}$; N.E. $\frac{1}{4}$; SEC. 21, N.W. $\frac{1}{4}$.—Rocky upland from 2,200 to 3,500 feet above sea level; very rugged and broken timber land of poor quality; scrubby balsam, fir and hemlock, with considerable brulé.

SEC. 21, S.W. $\frac{1}{4}$; N.E. $\frac{1}{4}$; S.E. $\frac{1}{4}$.—Benchland sloping from 2,600 to 800 feet; very precipitous and rocky; poor timber land; scrubby fir and vine maple with patches of brulé, no timber of value.

SEC. 22 (FRAC.).—Rolling benchland, from 1,800 to 750 feet above sea level; rocky ridges with swampy land in depressions, which would be of agricultural value

if drained; good timber land; scrubby fir on the rocky ridges, and vine maple and willow brush in swamps, brulé on eastern part of section, fir up to 30 inches in diameter on northern part, of fair timber value. In timber berth 367.

SECS. 23, 24, 25 (FRAC.)—Benchland with precipitous slope from 2,600 to 80 feet; rocky timber land, brulé with vine maple and hemlock scrub, but large standing dead trees show mountain side capable of bearing trees of timber value.

SEC. 26.—Upland with steep slope to south from 3,200 to 2,000 feet above sea level; northern part of section is nearly level plateau dotted with many small lakes; soil is sand loam, very shallow and stony; good timber land, hemlock and fir up to 36 inches in diameter, of very good timber value. In timber berth 367.

SEC. 27 (FRAC.)—Benchland comprised of hogsback between mountains, from 2,600 to 700 feet above sea level; land is too rocky and precipitous to be of agricultural value except in LS. 5, LS. 10, LS. 11, LS. 12 and LS. 15, on a bench at the foot of Hicks lake, with soil of 18 inches sandy loam; 75 per cent to 25 per cent fruit land, according to depth of soil and steepness of slope; heavily timbered with fir and cedar up to 48 inches diameter, of very good value. In timber berth 322, and timber berth 367.

SEC. 28, S. $\frac{1}{2}$.—Rocky upland, sloping from 3,200 to 2,400 feet; poor timber land, covered with scrubby balsam, fir and hemlock, of no timber value.

N. $\frac{1}{2}$.—Rocky benchland sloping precipitously from 2,700 to 700 feet; timber land, with scrubby fir and hemlock of little timber value except on lower slopes around lake. In timber berth 322.

SEC. 29, S.E. $\frac{1}{4}$.—Rocky upland with precipitous slope from 3,200 to 2,000 feet; scrubby balsam, fir and hemlock, of little timber value. In timber berth 529.

NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Bench land with precipitous slope from 2,800 to 30 feet above sea level; rocky land, with good timber value on lower slopes of fir, cedar and hemlock. In timber berth 529 and timber berth 322.

SEC. 30 (FRAC.)—Benchland along lake shore from 500 to 30 feet above sea level; some benches of agricultural value, with from 6 to 18 inches sand loam over loose rock; 30 per cent fruit land; timber, most cut off, hemlock and fir scrub.

SEC. 31 (FRAC.)—Benchland from 700 to 30 feet above sea level; rocky ridge along lake shore of timber land; fir and hemlock up to 36 inches diameter, of fair timber value. In timber berth 394.

SEC. 32.—Benchland from 1,225 to 30 feet above sea level; contains the Trout Lake valley of rich agricultural value; soil a deep black loam; rocky mountain slope begins in southeast quarter; 75 per cent fruit land; heavy forest growth of fir and hemlock up to 36 inches diameter, of good timber value. In timber berth 394, very dense scrub hemlock, vine maple and devil's clubs in valley.

SEC. 33.—Benchland sloping from 2,200 to 400 feet; rocky mountain slope down to valley in northern legal subdivisions; soil in valley a deep black loam, of fine agricultural value, and 75 per cent fruit land; thick hemlock scrub with scattered fir up to 4 feet in diameter, of good timber value. In timber berth 322.

SEC. 34.—Benchland with very steep slope into Hick's lake; from 2,500 to 700 feet above sea level; some small benches at north of lake in L.S. 13, of agricultural value; 35 per cent fruit land; heavily timbered with fir up to 36 inches, of good value. In timber berth 322 and timber berth 43.

SEC. 35 and 36.—Upland plateau from 2,400 to 3,200 feet above sea level; many little lakes; soil, a shallow sandy loam over loose rock; altitude too great for fruit growing or agriculture; timber land with a heavy growth of fir and hemlock up to 36 inches, of good timber value. In timber berth 43 and timber berth 490.

A. Lighthall, D.L.S., 1912.—(Section 16.)—This district was reached by wagon from Agassiz, a good road running along the north side of Seabird island. Only the southwest quarter-section was surveyed, and it was laid out for agricultural purposes; and consists of about 50 acres of flat land at the foot of a steep mountain. The part lying on the mountainside is worthless having no timber nor minerals and being too steep to cultivate. A fine stream of fresh water flows through this quarter-section and at the time of the survey was full of trout and salmon. The flat land is of alluvial origin and is probably good agricultural land. The stream in this quarter-section is too sluggish to furnish any water-power. The climate is fine and mild with no summer frosts. Fuel in the form of wood is abundant but no coal is found. The native rock is granite and unsuitable for building. No minerals have been found as yet in large quantities although the rock seems to contain more iron pyrites here than elsewhere. Evidences of bears and deer were found on the hillside and of martens and beavers along the creek.

W. J. Johnston, D.L.S., 1913.—(Partial.)—The work in the southeast quarter of this township was reached by means of a hand car from our camp at St. Elmo, situated in the township to the east. The northeast quarter was reached from Ruby Creek, a station on the Canadian Pacific railway, by a wagon road. Double tracking is being done on the railway through this township. The country is mostly mountainous, sloping towards the Fraser river. There is some good farming land in the east halves of sections 2 and 11 and also in the northwest quarter of section 12. The islands in the Fraser river have a rich, sandy, clay loam and are suitable for farming and fruit growing. The soil generally is a sandy clay loam with gravel subsoil and is suitable for growing fruit and vegetables as well as grain. The portion of the township north of the Fraser river is mountainous but there are a few patches of good land. The surface is covered with timber consisting of fir, cedar and hemlock up to 3 feet in diameter, with birch, balsam, poplar, cottonwood and alder up to 15 inches. An old *brulé* extends to a depth of about half a mile along the north bank of the Fraser river in sections 15, 23, 24 and 25. No hay was encountered. The Fraser river is about 15 chains wide and has a current of about 3 miles per hour at time of low-water. The creeks are small and are mountain-fed. The lakes and rivers contain fresh water. No land is liable to be flooded except the islands in the Fraser river and these only at excessive high-water. No water-powers were observed. The climate is mild with cool nights in summer. The snowfall is light and remains only a few weeks. Wood for fuel is found everywhere, but no coal nor lignite seams have been discovered. There are no stone-quarries. The rock consists of the granites of the coast range, metamorphosed sedimentaries and volcanics. There are no minerals being mined. Game is scarce. Bears and deer are occasionally encountered. Grouse are plentiful and there are a few pheasants. There is good fishing in the lakes, trout being the main catch. There was a large run of salmon in the Fraser river during July and August, the chief varieties being the sockeye and humpback.

Tp. 5, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character but has some good land in the southern sections in a valley-like depression between Harrison lake and the Fraser river.

The mountains in the northern part of the township rise with a very steep slope from the shore of Harrison lake to an altitude of 4,500 feet above sea level. The summits are snow-capped and the upper slopes bald, moss-covered rock with scattered scrubby balsam and hemlock. The slopes below 2,500 feet are usually very heavily timbered with fir and hemlock of good timber value.

The land of agricultural value is found in sections 4, 9, 10, 11 and 12 and consists of a broad valley between the mountains. The soil is a deep black or red loam,

very rich in humus and should prove to be excellent fruit land. At present the land is covered with a heavy growth of large fir up to 48 inches in diameter with thick scrub hemlock, vine maple and devil's clubs in swampy places.

SECS. 1, 2.—Upland, plateau from 3,200 to 2,200 feet above sea level, except northeast $\frac{1}{4}$ of section 1, which consists of bench land with a very precipitous rocky slope down to 700 feet above sea level; the plateau is dotted with many little lakes; soil, a shallow stony loam over loose rock, of little agricultural value; timber consists of heavy growth of fir and hemlock up to 36 inches diameter, of good timber value. In timber berth 43 and timber berth 354.

SEC. 3.—Rocky bench land, sloping from 2,200 to 700 feet; mountain ridge with little soil on benches except in L. S. 13, soil here is in places red loam, of good agricultural value and 35 per cent fruit land; thick hemlock scrub with scattered fir up to 40 inches in diameter. In timber berth 43 and timber berth 367.

SEC. 4.—Bench land from 1,000 to 400 feet above sea level, containing a wide valley with rich soil composed of black loam from 6 inches to 3 feet in depth, according to distance from mountain slope; 85 per cent fruit land; thick hemlock and fir scrub, with scattered fir up to 48 inches, of good timber value. In timber berth 373 and timber berth 392.

SEC. 5. (FRAC.).—Bench land sloping from 1,500 to 30 feet above sea level; rocky ridge along west side, but slope to the east is covered with soil of agricultural value, 3 to 18 inches red sandy loam; 20 per cent fruit land; cedar and fir up to 40 inches, of good timber value. In timber berth 372 and timber berth 377.

SEC. 6, (FRAC.).—Bench land sloping from 1,500 to 30 feet; very rocky timber land with scattered fir up to 30 inches, of fair timber value. In timber berth 322.

SEC. 7, (FRAC.).—Part rocky point of Cascade Peninsula and part rocky, steep mainland mountain slope; timber land covered with scrubby fir up to 36 inches of fair timber value. In timber berth 322.

SEC. 8, (FRAC.).—Bench land sloping from 2,000 to 30 feet; very rocky and steep mountain slope, with little soil over rock; timber land; very heavy growth of fir up to 36 inches in diameter, of good timber value. In timber berth 394 and timber berth 322.

SEC. 9.—Bench land sloping from 2,500 to 700 feet; rocky with steep slope on the north, but to southeast the more gentle slope and deepening soil gives land of considerable agricultural value; soil sandy loam; 35 per cent fruit land; heavily timbered with fir and hemlock up to 4 feet in diameter of very good timber value. In timber berth 417.

SEC. 10, SW. $\frac{1}{4}$.—Bench land sloping from 1,750 to 700 feet above sea level; rocky and steep on east, with more gentle slope on west, with soil of agricultural value; 25 per cent fruit land; soil black loam, of good depth in valley; fir, cedar and hemlock up to 36 inches in diameter, of good timber value. In timber berth 5.

SEC. 10, SE. $\frac{1}{4}$.—Bench land sloping from 1,900 to 750 feet above sea level; rocky and mountainous on west sloping down to valley flat on east, with soil of agricultural value; black and red loam from 1 to 3 feet in depth; L. S. 9 and L. S. 10, 45 per cent fruit land; heavily timbered with fir, cedar and hemlock up to 36 inches in diameter, of good timber value. In timber berth V.

SEC. 10, N. $\frac{1}{2}$.—Bench land sloping from 2,000 to 900 feet; cut by deep ravines; rocky and precipitous slopes; fir and hemlock up to 30 inches diameter, of fair timber value. In timber berth 5.

SEC. 11, L. S. 1, 2, 3.—Very precipitous, rocky slope from 2,400 to 800 feet; scattered scrubby fir and hemlock, of little timber value. In timber berth 5.

SEC. 11, L. S. 4, L. S. 5, L. S. 6, (FRAC.); L. S. 7, (FRAC.); L. S. 8, (FRAC.).—Nearly level bench land from 1,000 to 700 feet above sea level around Deer lake;

swampy in places; soil, a deep black loam, of excellent agricultural value; 75 per cent fruit land; fir and cedar up to 4 feet in diameter, of excellent timber value. In timber berth V.

SEC. 11, N. $\frac{1}{2}$.—Bench land with southern slope from 1,800 to 700 feet; shallow, sandy loam soil up to 12 inches in depth over rock; of possible agricultural value; 40 per cent fruit land; heavily timbered with fir and cedar up to 36 inches diameter, of good timber value. In timber berth V.

SEC. 12, S. $\frac{1}{2}$.—Bench land in valley of Deer Creek, from 1,900 to 550 feet above sea level; somewhat rocky to the south but the valley containing very rich black loam of high fertility; swampy in places; 75 per cent fruit land; very heavily timbered with fir, cedar and hemlock up to 48 inches diameter. In timber berth V and timber berth 46.

SEC. 12, N. $\frac{1}{2}$.—Bench land with south slope from 2,000 to 800 feet above sea level; shallow soil, becoming rocky to the northeast; 30 per cent fruit land; heavily timbered with fir and hemlock up to 30 inches diameter, of fair value. In timber berth V.

SEC. 13, S. $\frac{1}{2}$; SEC. 14, S. $\frac{1}{2}$; SEC. 15, S. $\frac{1}{2}$.—Steep rocky bench land slopes from 2,600 to 1,500 feet; thick forest growth of fir, hemlock and balsam, of little timber value, being of scrubby nature.

SEC. 13, N. $\frac{1}{2}$; SEC. 14, N. $\frac{1}{2}$; SEC. 15, N. $\frac{1}{2}$; SEC. 16.—Upland consisting of rocky precipitous mountain slopes, from 3,500 to 2,000 feet above sea level; covered with scrubby balsam, fir and hemlock, of little timber value.

SEC. 17; SEC. 18, (FRAC.); SEC. 19, (FRAC.); SEC. 20.—Bench land with very steep slope from 2,600 to 30 feet above sea level; very little soil over rock; very heavily timbered with fir, cedar and hemlock up to 40 inches diameter, of good timber value. In timber berth 322 and timber berth 394.

SECS. 21, 22, 23, 24, 25, 26, 27, 28.—Rocky mountainous upland, from 2,000 to 4,500 feet above sea level; snow capped peaks with scrubby balsam, hemlock and fir at lower altitudes, of little timber value.

SEC. 29, 30, 31; SEC. 32, W. $\frac{1}{2}$.—Bench land with very steep rock slopes, from 2,800 to 30 feet above sea level; little soil over rock except on west border of sections 30 and 31 where on the low benches soil of sufficient depth is found suitable for fruit-growing; very heavily timbered with fir and cedar up to 48 inches diameter, of excellent timber value.

SEC. 32, E. $\frac{1}{2}$; SEC. 33, 34, 35, 36.—Rocky, mountainous upland from 2,300 to 4,600 feet above sea level; snow-capped peaks, bald rocky slopes with thick growth of balsam, fir and hemlock in sheltered places, no timber of value.

*W. J. Johnston, D.L.S., 1913.—(Section 1).—*This work was reached by means of a hand car on the Canadian Pacific railway from our camp at Ruby Creek. The township is of a mountainous nature and very little farming land is found. The southern portion is taken up by timber limits. The soil is a sandy clay loam with a sandy sub-soil, and is suitable for general farming and fruit growing. The entire township is covered with fir, cedar and hemlock up to 3 feet with balsam, birch, spruce and alder up to 15 inches in diameter. No hay was found. All of the rivers and lakes contain fresh water. Ruby creek is about 1 foot deep and flows at the rate of about 3 miles per hour. The land is not liable to be flooded. No water-powers were found. The climate is mild throughout the year. About 2 feet of snow falls during the winter months. Wood for fuel is found throughout the entire township. There are no stone-quarries or mines in operation. The rocks consist of granites and metamorphosed sedimentaries. Deer, bears and grouse are plentiful.

Tp. 6, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is characterized by high rocky mountains sloping precipitously down to Harrison lake. The only lands suitable for fruit growing or agriculture are found in sections 7, 8 and 17, on small benches along Bear creek.

SECS. 1, 2, 3, 4; SEC. 5, E. $\frac{1}{2}$.—Rocky mountainous upland sloping from 4,600 to 2,200 feet; snowy peaks with bald rocky slopes; scrubby balsam, fir and hemlock, of no timber value.

SEC. 5, W. $\frac{1}{2}$; SEC. 6 (FRAC.).—Very steep, rocky bench land sloping from 2,600 to 30 feet above sea level; little soil over rock; very heavy growth of fir and cedar up to 36 inches diameter, of good timber. In timber berth 394 and timber berth 327.

SEC. 7 (FRAC.).—Bench land sloping to Bear creek from 1,800 to 30 feet above sea level; some benches along creek with soil of agricultural value, sandy loam up to 18 inches in depth; 25 per cent fruit land; heavily timbered with somewhat scrubby fir and cedar up to 30 inches diameter, of fair timber value.

SEC. 8.—Bench land sloping from 2,600 to 300 feet to Bear creek; some small benches along creek of agricultural land; soil, sandy loam of varying depths; 20 per cent fruit land; fir and hemlock up to 30 inches of rather scrubby nature and little timber value.

SEC. 9, 10; SEC. 11, NW. $\frac{1}{4}$; SEC. 16.—Bench land slopes from 2,800 to 500 feet above sea level; very rocky and steep; heavy forest growth of fir and hemlock up to 36 inches diameter, of fair timber value. In timber berth 312.

SEC. 11, NE. $\frac{1}{4}$ SE. $\frac{1}{4}$; SW. $\frac{1}{4}$; SEC. 12, 13, 14, 15.—Upland slopes to snow-capped mountains; from 2,200 to 4,600 feet above sea level; very rocky and precipitous; scrubby fir, hemlock and balsam, of little timber value; huckleberry and moss on upper slopes.

SEC. 17.—Bench land slopes from 2,500 to 600 feet; very rocky except small benches in L.S. 3 and L.S. 4 along Bear creek, where soil is a sandy loam of considerable depth; 30 per cent fruit land; fir and hemlock up to 36 inches, of fair timber value in valley. In timber berth 312.

SEC. 18 (FRAC.); SEC. 19 (FRAC.); SEC. 20, W. $\frac{1}{2}$.—Bench land with very precipitous, rocky slope, from 2,800 to 30 feet into Harrison lake; very little soil; scrubby hemlock, poplar, vine maple and fir, with few trees of timber value.

SEC. 20, E. $\frac{1}{2}$; SECS. 21, 22, 23, 24, 25, 26, 27, 28; SEC. 29, SE. $\frac{1}{4}$.—Precipitous upland slopes from 2,000 to 4,800 feet above sea level; snowy mountains with bare rock slopes; scrubby balsam, fir and hemlock on rocky ledges; no timber value.

SEC. 29, SW. $\frac{1}{4}$, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$; SEC. 30 (FRAC.); SEC. 31 (FRAC.); SEC. 32; SEC. 33, NW. $\frac{1}{4}$.—Bench land with very steep slope from 2,700 to 30 feet above sea level into Harrison lake; very rocky slopes with many cliffs; little soil over rock; scrub fir, hemlock, poplar and vine maple in old brulé, no timber of value.

SEC. 33, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SECS. 34, 35, 36.—Upland slopes from 2,200 to 4,000 feet above sea level; very mountainous and rocky, useless except as timber land; scrubby balsam, fir and hemlock with some brulé in sec. 33, no timber of value.

Tp. 7, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character. Spurs from the Snowy Group mountains with an altitude of over 5,000 feet enter the township from the north, making the land useless agriculturally or for fruit growing, except in secs. 5, 8 and 9 in the Gold Creek valley. Here wide benches are found with varying depths of sandy loam soil adapted for fruit growing.

The timber in the township is of poor value. Some fir and balsam of merchantable quality are found in secs. 15, 16 and 17, but otherwise the forests consist of scrubby fir, hemlock, cedar, poplar, balsam and vine maple of no timber value.

SECS. 1, 2; SEC. 3, E. $\frac{1}{2}$.—Rocky precipitous upland sloping from 4,000 to 2,200 feet; mountainous country covered with huckleberry bushes and scrubby balsam, hemlock and fir of no timber value.

SEC. 3, W. $\frac{1}{2}$; SEC. 4.—Bench land sloping from 2,600 to 300 feet above sea level; very rocky and precipitous; hemlock, fir and vine maple scrub in old brûlé.

SEC. 5, E. $\frac{1}{2}$ (FRAC.).—Bench land around Gold creek from 500 to 30 feet above sea level; greater part benches of agricultural land well adapted for fruit growing; 75 per cent fruit land; thick hemlock, fir, poplar and vine maple scrub, best of timber cut off.

SEC. 5, W. $\frac{1}{2}$ (FRAC.); SEC. 6 (FRAC.); SEC. 7 (FRAC.).—Bench land with precipitous slope from 2,600 to 30 feet above sea level; very rocky with areas of barren rock slides; little scrub fir, hemlock, balsam and vine maple in old brûlé, no timber of value.

SEC. 8.—Bench land with precipitous slope from 2,600 to 70 feet above sea level; little soil over rock except on small benches along Gold creek, soil in L.S. 8 & 1 consists of sandy loam of varying depth; 30 per cent fruit land; scrubby balsam, fir and hemlock, and vine maple with few cedar up to 4 feet in diameter, of timber value.

SEC. 9, NW. $\frac{1}{4}$.—Bench land from 700 to 100 feet above sea level; benches along creek of sandy loam soil of varying depths, of good agricultural value; 50 per cent fruit land; poplar, fir and hemlock bush of little timber value.

SEC. 9, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Bench land from 2,000 to 70 feet above sea level; very rocky except in L. S. 5 where there is small benches of sand loam soil of fair agricultural value and 20 per cent fruit land.

SEC. 10, W. $\frac{1}{2}$.—Very rocky broken bench land sloping from 2,800 to 800 feet above sea level; scrubby balsam, hemlock and fir of little timber value.

SEC. 10, E. $\frac{1}{2}$; SEC. 11, 12, 13, S. $\frac{1}{2}$; SEC. 14, L.S., 1, 2, 3, 4, 7 AND 8.—Mountainous upland sloping from 5,000 to 2,000 feet above sea level; very rocky and covered with scrubby fir, hemlock and balsam of no timber value.

SEC. 13, N. $\frac{1}{2}$; SEC. 14, N. $\frac{1}{2}$; L.S. 5, 6; SECS. 15, 16, 17, E. $\frac{1}{2}$.—Very rugged bench land sloping from 2,600 to 400 feet above sea level; very rocky and covered with hemlock and fir up to 30 inches in diameter, of fair timber value.

SEC. 17, W. $\frac{1}{2}$; SEC. 18.—Mountainous upland sloping from 5,000 to 2,200 feet; very rocky with scattered scrubby fir, hemlock and balsam in old brûlé.

SECS. 19 TO 36.—Mountainous country consisting almost entirely of upland sloping from snow-capped mountains 6,000 feet high to the deep canyon like ravines 1,000 feet above sea level; very rugged and rocky with no land suitable for agriculture or fruit growing; hemlock and fir in ravines and scattered balsam on upper slopes, no merchantable timber.

Tp. 8, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is extremely mountainous in character. The Snowy Group mountains with extensive snow fields 6,500 feet above sea level, traverse the township leaving no bench land except the valleys of Hornet Creek and Clear Creek. The slopes to these creeks are so steep and rocky that no land of agricultural value or suitable for fruit growing is found within the township.

The forest growth is very dense on the lower lands but consists of scrubby jack pine, hemlock and balsam of no timber value. On the upland the balsam and jack pine predominates, becoming more and more scrubby on the higher slopes with huckleberry undergrowth. The forests have apparently all been burnt off some years ago. No merchantable timber was found within the township.

Tp. 9, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is exceedingly mountainous in character. The Snowy Group mountains reach an altitude of over 6,500 feet above sea level with extensive snow

fields. The land is exceedingly rocky and consists entirely of upland except for the bottoms of some mountain gulches. No land suitable for agriculture or fruit growing was found.

The forest growth consists of scrubby balsam fir, hemlock and jack pine in ravines, of little timber value. On the higher uplands the balsam and jack pine predominates, but with very scrubby stunted growth. No merchantable timber was found within the township.

Tp. 10, R. 28, W. 6th Mer. *G. A. Bennett, D.L.S., 1910*

This township is exceedingly mountainous in character. The snow-capped peaks of the Snowy Group mountains rising to the estimated height of 6,500 feet above sea level, traverse the township from north to south. The upland slopes down from these mountains are exceedingly rocky and precipitous. The only bench land in the township is found in the bottom of mountain gulches. No land suitable for agriculture or fruit growing is found within the township.

The timber in the ravines is scrubby fir, cedar, hemlock and balsam of little merchantable value. On the higher upland the timber becomes more scrubby, with balsam and jack pine predominating.

Tp. 3, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

The undisposed of part of this township consists of rocky slopes rising to an altitude of 3,200 feet above sea level. A few benches with black loam soil are found in the northwest sections among rocky ridges. Also around a slough in secs. 28, 33 and 34 flooded grazing land becoming rocky on slopes above high water mark may if dyked become fine agricultural and fruit growing lands.

The forest growth is generally scrubby with a few patches of fir up to 36 inches diameter of merchantable timber. The township was burnt over within recent years, destroying the best of the timber.

SEC. 19.—Parts undisposed of consists of bench land from 650 to 40 feet above sea level; rocky with very little soil over rock except in L.S. 14 which has from 3 to 18 inches stony loam of doubtful agricultural value and 20 per cent fruit land; scrub fir and hemlock in old brulé.

SEC. 20.—Bench land with very steep slope from 1,800 to 40 feet; rocky and precipitous, with very little soil over rock; brulé with a clump of fir up to 36 inches in NE. $\frac{1}{4}$. In timber berth 274.

SEC. 21, NW. $\frac{1}{4}$ (FRAC.).—Part undisposed of is composed of a steep rocky slope from 540 to 40 feet above sea level; few scattered vine maple and scrubby fir in old brulé.

SEC. 21, NE. $\frac{1}{4}$ (FRAC.).—Islands in Fraser river composed of sand bars; flood lands, useless unless dyked; scattered willow brush.

SEC. 28.—Part undisposed of consists of very badly flooded grazing land along slough with part of the steep rocky mountain slope; possible fruit land if dyked; thick undergrowth of thorns, willow and birch.

SEC. 29.—Very rugged and mountainous, sloping from 2,800 to 500 feet but is almost entirely bench land; rocky and useless except for timber land; brulé generally, restocking with fir and hemlock scrub, some scattered fir up to 36 inches of fair timber value.

SEC. 30.—Bench land from 2,450 to 300 feet above sea level, composed of little rocky ridges with black loam soil in valleys; of fair agricultural value in the western part of the section; 40 per cent fruit land; thickets of fir and hemlock scrub in brulé, with scattered fir up to 4 feet diameter, of fair timber value.

SEC. 31.—Rocky bench land sloping very steeply from 2,700 to 200 feet; small benches with 18 inches black loam, but so difficult of access as to be of doubtful value for fruit lands; scattered fir up to 36 inches in thick hemlock, cedar and fir scrub.

SEC. 32.—Upland from 2,900 to 2,400 feet except L.S. 1, L.S. 8, and L.S. 9 which are bench land from 2,500 to 500 feet above sea level; rocky and mountainous; scattered scrubby fir, hemlock and balsam in brulé.

SEC. 33, NW. $\frac{1}{4}$.—Rocky bench land with precipitous slope from 2,500 to 300 feet; brulé with vine maple, fir and hemlock scrub.

SEC. 33, L.S. 1 (FRAC.), L.S. 2, L.S. 3.—Flooded lands from 80 to 40 feet above sea level; very rich alluvial soil of great depth; fine grazing among patches of dense thickets of willow and thorn bushes.

L.S. 4, L.S. 5.—Rocky mountain slopes from 50 to 300 feet above sea level; very rocky and covered with scrub fir, poplar and vine maple.

L.S. 6, L.S. 7, L.S. 8, L.S. 9, L.S. 10.—Flooded lands from 150 to 40 feet above sea level; fine grazing, but with dyking would be very good agricultural lands; the northern portion of the flat is now above flood water mark and together with lower lands would make excellent homesteads; 75 per cent fruit land; very thick underbrush on higher lands of thorns, willow and birch; lower lands in L.S. 7, L.S. 8 and L.S. 9 are open meadow lands.

SEC. 34.—Part undisposed of consists for the greater part of flooded land; from 200 to 40 feet above sea level; the south half is generally open meadow land with rich alluvial soil of fine agricultural value if dyked; the north half has more scrub willow and birch, and becomes rocky, the mountain slope beginning along north boundary; 60 to 85 per cent fruit land.

Tp. 4, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township borders on Harrison lake and river. The undisposed of lands are for the most part rocky and mountainous. Small patches of agricultural value occur, however, in sections 8, 16, 20 and 21, and in sections 31 and 32. The timber is generally scrubby, the southern part of the township being covered with brulé, but in the northern sections some merchantable fir and cedar are to be found.

SEC. 2; SEC. 3, S.E. $\frac{1}{4}$.—Parts undisposed of consist of very steep rocky, sloping bench land from 2,600 to 200 feet, except L.S. 13, which is upland sloping from 3,000 to 2,400 feet above sea level; timber land, brulé, restocking vine maple fir and hemlock scrub.

SEC. 3, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 4; SEC. 5, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rock precipitous upland, sloping from 3,200 to 2,200 feet; mountain tops covered with scrubby fir, hemlock and vine maple in brulé; no timber of value.

SEC. 5, NW. $\frac{1}{4}$; SEC. 6 (FRAC); SEC. 7 (FRAC.).—Bench land with very steep slope from 2,600 to 30 feet; rocky mountain side with scattered scrubby fir, hemlock and vine maple in old brulé; no timber of value.

SEC. 8 (FRAC.).—Bench land with very steep slope from 2,500 to 30 feet; precipitous and rocky except in L.S. 4, L.S. 5 (Frac.) and L.S. 12 (Frac.), where a bench is found with from 3 to 18 inches sandy loam over loose rock; of fair agricultural value; 30 per cent fruit land; scrubby fir, hemlock and vine maple, with a few scattered fir up to 30 inches of timber value, brulé on upper slopes.

SEC. 9 (FRAC.); SEC. 10, NE. $\frac{1}{4}$, N.W. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Bench land with very steep slope from 2,700 to 30 feet; rocky mountain side; few scrubby fir, hemlock and vine maple in old brulé.

SEC. 10, SE. $\frac{1}{4}$; SEC. 11, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rocky precipitous upland from 3,000 to 2,400 feet; very rugged and rocky; scattered vine maple, fir and hemlock scrub in old brulé.

SEC. 11, SE. $\frac{1}{4}$, N.E. $\frac{1}{4}$; SEC. 14 (FRAC.).—Rugged rocky bench land sloping from 2,600 to 30 feet; precipitous slope from mountain with scattered scrubby fir, hemlock and vine maple in brulé.

SEC. 15 (FRAC.); SEC. 16 (FRAC.); SEC. 17 (FRAC.).—Parts undisposed of are rocky bench land, sloping from 1,500 to 30 feet above sea level; only land of agricultural value is in L.S. 15, sec. 16, where from 3 to 18 inches of black loam is found in depressions between rocky ridges of very good agricultural value but limited in area and difficult of access; 35 per cent fruit land; fir and cedar up to 18 inches diameter in thick scrub.

SEC. 19.—Parts undisposed of consist of bench land sloping from 2,600 to 300 feet; rocky and precipitous mountain side with small patches of stony flat land at foot of mountain; brûlé on mountain side restocking with hemlock, fir and vine maple in dense thickets on lower levels.

SEC. 20 L.S. 8, 9, 16; SEC. 21.—Bench land from 2,000 to 1,000 feet above sea level; rocky ridges with depressions filled with from 3 inches to an unknown depth of black loam, of good agricultural value; 30 per cent fruit land; cedar and fir up to 18 inches, of little timber value.

SEC. 22.—Rocky slopes consisting of bench land except L.S. 10 and L.S. 15 which are upland; from 2,700 to 500 feet above sea level; very little soil over rock; scrub fir and hemlock up to 18 inches.

SEC. 23 (FRAC.).—Rocky mountain slope down to Harrison lake; bench land sloping from 2,400 to 30 feet; very little soil over rock; vine maple, fir and hemlock scrub; of no timber value.

SEC. 26 (FRAC.).—Rocky mountain slope down to Harrison lake, bench land from 2,300 to 30 feet; very little soil over rock except in L.S. 3 on 150 yard bench along lake; soil, 14 inches of yellow sandy loam at shore and getting rocky at west boundary; 35 per cent fruit land; vine maple, cedar, hemlock and fir scrub, of no timber value.

SEC. 27.—Rocky bench land sloping from 2,500 to 30 feet; very little soil over rock; scrubby fir up to 36 inches, of poor timber value. In timber berth 251.

SEC. 28.—Rocky bench land sloping from 1,200 to 200 feet; rocky ridges with patches of 18 inches of black loam; swampy along eastern boundary; of fair agricultural value; 30 per cent fruit land; fir up to 36 inches in north $\frac{1}{2}$, of fair timber value. In timber berth 251.

SEC. 29.—Parts undisposed of are rocky or swampy bench land from 700 to 200 feet above sea level; L.S. 1 of fair agricultural value; 20 per cent fruit land; scrub hemlock and fir, of no timber value.

SEC. 30.—Rocky bench land sloping from 2,600 to 300 feet; very little soil over rock except in L.S. 1, where some sandy loam is to be found along foot of mountain slope; brûlé with a little hemlock and fir scrub.

SEC. 31.—Rocky bench land sloping sharply from 2,500 to 600 feet; rugged, with little soil over rock except in L.S. 16 around shore of Weaver lake; here soil is from 6 inches to 3 feet black loam inclined to be swampy, but of very rich agricultural value; 50 per cent fruit land; fir and cedar up to 48 inches around lake, of excellent timber value. In timber berth 251.

SEC. 32 S. $\frac{1}{2}$.—Rocky bench land from 1,200 to 500 feet above sea level; very little soil over rock; dense thickets of fir and hemlock scrub; little timber of value. In timber berth 251.

SEC. 32, N. $\frac{1}{2}$.—Bench land around Weaver lake sloping from 1,000 to 700 feet; very rich benches of alluvial soil around lake; black loam of excellent agricultural value; 50 per cent fruit land; fir and cedar up to 46 inches in diameter of excellent timber value. In timber berth 251.

SECS. 33, 34.—Bench land from 1,750 to 30 feet above sea level; mountain ridge with little soil over rock; scrub hemlock, fir and vine maple with a few scattered fir up to 40 inches, of fair timber value. In timber berth 251.

SEC. 35 (FRAC.); SEC. 36 (FRAC.).—Southern part of Echo island; very rocky bench land from 850 to 30 feet above sea level; series of rocky ridges with very little soil between them; fir, hemlock and poplar up to 20 inches, of little timber value.

W. J. Deans, D.L.S., 1911.—Section 2 is mountainous, except the southwest quarter and about four acres of the west half of legal subdivision 9 which are level. The soil is clay with some sand and gravel, and is suitable for the production of fruit and vegetables. The settler on the northeast quarter of section 1 of this township has had great success with English walnuts and filberts. Sections 9 and 10 are mountainous and rocky. Section 10 contains no land suitable for agricultural purposes. There is some fir and cedar which would make good lumber and shingles. On section 9 the good land is confined to a small plot near Harrison river. What land there is suitable for useful purposes produces large quantities of small fruit and vegetables. The settlers along Harrison river are engaged in fishing and raising small fruits. Some do a little logging and make shingle bolts, which find a market at Harrison mills.

P. Melhuish, D.L.S., 1914.—(*Partial.*)—This township is reached by the Canadian Pacific railway to Agassiz, from which station it lies 2 or 3 miles to the north. It can also be reached by way of the Harrison river from Harrison Mills. There is a good road from Agassiz to the village of Harrison Hot Springs, and motor stages are run between these points. Harrison lake is a fine navigable body of water for its entire length. Harrison river, although swift, is navigable in the summer when the water is high, and steamers come up from the Fraser river. In the late autumn and winter the water is too shallow for the navigation of any but small flat-bottomed boats. Parts of sections 1, 12, 2 and 13 are level, but with the exception of the Indian reserves along Harrison river the remainder of the township is practically all mountainous. The flat land is alluvial, the upper soil being loam and the subsoil gravel or hardpan. This land is very suitable for mixed farming. The mountain sides are gravelly, the surface being very rough. Fir, cedar, birch, vine maple and alder grow on the mountain sides and provide ample fuel. The flat land in sections 1 and 2 is partly under cultivation. In the east half of section 12, which is flat, there is some good fir and cedar. There is no hay in this township. A plentiful supply of fresh water is provided by Harrison river, Harrison lake and the numerous mountain streams. These latter are not large enough for the generation of power. Harrison Hot Springs are located in section 14 at the south end of Harrison lake. These springs contain hot sulphur water, which is used for medicinal purposes. The climate is good and there are no summer frosts. The village of Harrison Hot Springs is in section 13, and the lake and sulphur springs make the place an attractive summer resort. On a clear day Mount Douglas, at the head of the lake, can be seen. The granite rock on the mountains might be suitable for building purposes. No minerals of value were found. Deer and bears are plentiful in the northern part of the township.

Tp. 5, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township consists of part of the eastern shore of Harrison lake, the north part of Echo Island and the Cascade Peninsula. The land is generally rocky with occasional small benches of very fertile soil. Such fertile benches occur north of Weaver lake in sections 5 and 6, along the shore of Harrison lake in sections 16, 20, 21, 28 and 33, and in sections 25 and 36 on the Cascade Isthmus.

Except around Weaver lake there is very little merchantable timber, the rocky mountain slopes being covered with scrubby fir, balsam and hemlock, while on the flats poplar, birch and vine maple predominates with few cedar and fir of merchantable value.

SEC. 1, (FRAC.); SEC. 2, (FRAC.).—Echo island is composed of rocky ridges rising to 1,095 feet; very little soil in depressions; scrubby fir and hemlock up to 30 inches, of little timber value.

SEC. 3, (FRAC.); SEC. 4.—Rocky bench land rising from 30 to 1,800 feet above sea level in a ridge parallel to Harrison lake; very little soil on the steep slopes; scrubby hemlock and fir up to 36 inches, of some merchantable value; in timber berth 251.

SEC. 5.—Bench land with south slope to Weaver lake; rocky and steep slope from 1,800 to 1,000 feet in northern half of section, but south half contains rich alluvial benches north of Weaver lake of excellent agricultural value; 75 per cent fruit land; timber near the lake is very heavy, consisting of fir and cedar up to 60 inches, on upper slopes timber becomes scrubby and of little value. In timber berth 251.

SEC. 6, SW. $\frac{1}{4}$; SE. $\frac{1}{4}$; NE. $\frac{1}{4}$.—Rocky bench land sloping from 2,600 to 700 feet; very little soil except in swampy land around Weaver lake in L. S. 1, of doubtful agricultural value; very steep mountain slopes with scrub hemlock and fir up to 18 inches, of little timber value.

SEC. 6, NW. $\frac{1}{4}$; SEC. 7; SEC. 8, NW. $\frac{1}{4}$.—Rocky upland slopes from 4,500 to 2,400 feet; very precipitous and mountainous; scrubby balsam, fir and hemlock, of little timber value.

SEC. 8, SW. $\frac{1}{4}$; SE. $\frac{1}{4}$; NE. $\frac{1}{4}$; SEC. 9; SEC. 10, (FRAC.).—Bench land sloping from 2,600 to 30 feet; very rocky and precipitous except in L. S. 16, sec. 9, and L. S. 13, sec. 10, where soil is found in a small valley of agricultural value; 50 per cent fruit land; very little merchantable timber, scrubby fir, hemlock and balsam.

SEC. 12 (FRAC.); SEC. 13 (FRAC.).—Bench land from 600 to 30 feet above sea level; rocky ridge rising precipitous from the water's edge; very little soil over rock; scrubby fir up to 24 inches, of little timber value.

SEC. 16 (FRAC.).—Bench land from 1,500 to 30 feet above sea level; rocky, precipitous slope with little soil except in legal subdivisions 1, 8, 9, 10 and 15, where there is considerable depth of good black loam in depressions between rocky ridges; 35 per cent fruit land, merchantable timber cut off, new brulé; all scrub killed.

SEC. 17, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Bench land from 2,600 to 900 feet above sea level; rocky precipitous mountain slope, with little soil over rock; scrubby fir and hemlock with considerable brulé.

SEC. 17, SW. $\frac{1}{4}$; SEC. 18, 19.—Rocky, mountainous upland sloping from 5,000 to 2,200 feet; cut by deep ravines; not much soil over rock; scrubby fir, hemlock and balsam, of little timber value.

SEC. 20.—Bench land sloping from 2,600 to 500 feet; steep, rocky mountain slope with little soil over rock except in L.S. 8, 9 and 16 on benches composed of rocky ridges, with from 3 to 6 feet of black loam in depressions; 25 per cent fruit land; dense thickets of fir and hemlock scrub with poplar and soft maple along creeks, few fir up to 40 inches of timber value.

SEC. 21 (FRAC.).—Bench land sloping from 900 to 30 feet; rocky spurs running out from mountain with depressions filled with from 3 inches to 6 feet of black loam; some alluvial flats in L.S. 2 of excellent agricultural value; 50 per cent fruit land; fir and cedar in depressions up to 40 inches, of good timber value, scrub on rocky ridges. In timber berth 322.

SEC. 24 (FRAC.).—Rocky ridge of Cascade peninsula; bench land sloping from 700 to 30 feet, with little soil over rock; scrubby fir of little timber value.

SEC. 25 (FRAC.).—Cascade isthmus; bench land sloping from 500 to 30 feet, composed of rocky ridges separating valleys of rich soil, from 6 inches to 6 feet of sandy loam of fine agricultural value; 60 per cent fruit land; poplar and maple with a few cedar and fir up to 40 inches, of timber value. In timber berth 327

SEC. 28 (FRAC.).—Rocky ridges forming bench land from 1,000 to 30 feet above sea level; soil in depressions between ridges of gravelly loam, very rich in places; 35 per cent fruit land, very rocky in northwest quarter and of little value except for timber land; 4 fir from 2 to 4 feet and 6 cedar from 18 to 36 inches in diameter to acre, fair timber value.

SEC. 29, 30, 31, 32.—Bench land sloping from 2,600 to 500 feet; rocky and with little soil on the steep slopes; cut by numerous creek canyons; some small benches between rocky ridges, running parallel to lake, with stony loam soil, but almost inaccessible; 20 per cent fruit land in section 32; cedar and fir up to 36 inches scattered through thick scrub of fair timber value.

SEC. 33.—Bench land from 900 to 30 feet above sea level, composed of rocky ridges running parallel with shore and having small depressions between them of gravelly soil; 40 per cent fruit land; fir and cedar up to 4 feet in diameter, scattered through thick scrub, of fair timber value.

SEC. 36 (FRAC.)—Bench land composed of rocky ridges from 500 to 30 feet above sea level; between ridges soil of rich loam of excellent agricultural value, very accessible to lake; 60 per cent fruit land; poplar, soft maple with few cedar and fir up to 40 inches in diameter, of good timber value. In timber berth 327.

Tp. 6, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township consists entirely of bench land. The main land slopes to Harrison lake and Long island are cut by north and south ranges of rocky hills. Between these ridges lie lands suitable for agriculture, being composed of rich loam of good fruit growing value. The forests on these lands consist of fir, hemlock and cedar up to 36 inches in diameter and of very fair timber value. The timber has been cut off Long island leaving a few trees over 18 inches in diameter consisting of fir, cedar and hemlock.

SEC. 1 (FRAC.)—Narrow strip of bench land from 400 to 30 feet above sea level; soil 3 to 12 inches sand loam on little benches on mountain slope, 25 per cent fruit land; fir up to 36 inches of fair timber value. In timber berth 394.

SEC. 4 (FRAC.)—Bench land sloping to Harrison lake from 700 to 30 feet above sea level; rocky ridges parallel to lake with depressions filled with soil, sandy, gravelly loam very rich in places; 50 per cent fruit land; fir and cedar up to 36 inches of fair timber value.

SECS. 5, 6.—Bench land sloping from 2,600 to 500 feet; rocky hills with little soil in depressions; fir and hemlock up to 36 inches scattered through thick scrub, fair timber value.

SECS. 7, 8; SEC. 9 (FRAC.)—Bench land sloping from 2,600 to 30 feet; series of rocky ridges with workable soil in depressions, 3 inches to 6 feet of gravelly loam; from 30 per cent to 50 per cent fruit land, depending on elevation, fir from 18 to 30 inches, about 18 per acre, very fair timber value.

SEC. 10 (FRAC.); SEC. 11 (FRAC.); SEC. 14 (FRAC.); SECS. 15, 16.—Bench land from 600 to 30 feet above sea level, consisting of rocky ridges with depressions filled with from 12 inches to 18 inches of sandy loam; 75 per cent fruit land on western part of island, but rocky to the east; few scattered fir and cedar up to 36 inches in dense scrub fir, hemlock and cedar; best timber has been cut off.

SECS. 17, 18, 19, 20.—Bench land from 2,000 to 30 feet above sea level long slope dispersed with rocky ridges, having valleys or depressions with 18 inches gravelly loam of good agricultural value; 40 per cent to 60 per cent fruit land, depending on altitude; fir, cedar and hemlock up to 36 inches diameter, of fair timber value. In timber berth 432 and 413.

SEC. 21 (FRAC.); SEC. 22; SEC. 23 (FRAC.); SEC. 27 (FRAC.); SEC. 28 (FRAC.)—Bench land sloping from 800 to 30 feet above sea level; long island consists of rocky ridges on east side, a wide valley down the centre and a few small ridges along the western shore; the soil in this valley is from 2 to 6 feet red clay loam of very rich agricultural value; 100 per cent fruit land, scrub fir, cedar hemlock and jack pine on ridges, merchantable timber cut off.

SEC. 29 (FRAC.); SEC. 30.—Bench land from 2,700 to 30 feet above sea level; very rocky and precipitous, with little soil over rock covered with moss; small bushes and a few fir up to 30 inches in ravine in sec. 30.

SEC. 31; SEC. 32 (FRAC.).—Bench land sloping from 2,800 to 30 feet into Harrison lake; very rocky and mountainous slopes; brulé, not yet restocked.

SEC. 33 (FRAC.); SEC. 34 (FRAC.).—Portion of Long island composed of bench land sloping from 800 to 30 feet above sea level; rocky along eastern shore, but with rich clay loam in legal subdivisions 2, 3, 6, 11, 12 and 13 in a sort of valley running lengthwise of island; 100 per cent fruit land; scrub jack pine, fir, cedar and hemlock, with merchantable timber cut off.

Tp. 7, R. 29, W. 6th Mer... *G. A. Bennett, D.L.S., 1910.*

This township is made fractional by Harrison lake. In character it consists of bench land made up of steep rocky slopes from surrounding mountains with nearly level benches at a low altitude above sea level. These low benches are lands of high agricultural value and very suitable for fruit growing. They are found in secs. 4, 5, 8 and 9 on a low flat on the western shore of Harrison lake, also in the Silver Creek Valley in secs. 23, 25, 26, 35 and 36. The soil on these benches is usually an alluvial sandy loam of high fertility. Fir and cedar up to 40 inches are found on these low lands of high timber value, but the upper bench land has been burnt over and nothing but scrub fir, hemlock and vine maple of no merchantable value remain.

SEC. 4, (FRAC.).—Bench land from 300 to 30 feet above sea level; rocky ridge along eastern side; flooded land at high water in legal subdivision 4, 5 and 6; soil a sandy loam from 6 to 18 inches deep; fair agricultural land; brulé with jack pine and hemlock scrub.

SEC. 5, E. $\frac{1}{2}$.—Bench land sloping from 300 to 30 feet; rocky, with beginning of mountain slope at western boundary; L. S. 1 flooded at extreme high water; soil gravelly loam of high fertility; 60 per cent fruit land; all merchantable timber taken off, brulé little restocked.

SEC. 5, W. $\frac{1}{2}$; SEC. 6, E. $\frac{1}{2}$.—Steep sloping bench land from 2,600 to 200 feet above sea level; rocky mountain slope; brulé with some hemlock and balsam scrub on higher slopes, of no timber value.

SEC. 6, W. $\frac{1}{2}$.—Upland from 2,400 to 3,000 feet; steep, rocky mountain slope; thick scrubby balsam, hemlock and fir, of no timber value.

SEC. 7, W. $\frac{1}{2}$.—Bench land sloping from 2,600 to 1,200 feet; rocky mountain slope; scrubby fir, hemlock and balsam, of little timber value.

SEC. 7, E. $\frac{1}{2}$.—Bench land from 1,500 to 450 feet above sea level; somewhat rocky on west side but generally soil from 10 to 18 inches gravelly loam; 60 per cent fruit land; cedar and fir up to 48 inches, of good timber value.

SEC. 8, (FRAC.).—Bench land from 800 to 30 feet above sea level; somewhat broken by ridges, but with soil from 6 to 18 inches loam very rich in places; 70 per cent fruit land; cedar and fir up to 60 inches, of excellent timber value.

SEC. 12, (FRAC.); SEC. 13, (FRAC.).—Bench land from 1,800 to 30 feet above sea level; consists of rocky mountain slope except in L. S. 13 sec. 13, where bench of soil of few acres is found; 20 per cent fruit land; scrub fir, hemlock, poplar and vine maple on old burn.

SEC. 17.—Rolling bench land from 600 to 30 feet above sea level; soil 18 inches sand loam; 60 per cent fruit land; timber cut off near shore of lake, on western parts fir up to 30 inches, of fair timber value.

SEC. 22, (FRAC.); SEC. 23, (FRAC.).—Swampy, flooded land; rich alluvial soil, flooded at high water; cedar and fir up to 48 inches, of fair timber value.

SEC. 24, (FRAC.), SW. $\frac{1}{4}$.—Bench land from 500 to 30 feet above sea level; rich black loam 1 to 3 feet in depth; 75 per cent fruit land; somewhat rocky to northeast; fir and hemlock up to 36 inches diameter, of fair timber value.

SEC. 24, NW. $\frac{1}{4}$; SE. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Bench land from 2,500 to 200 feet above sea level; rocky mountain slope with some benches of gravelly soil, of doubtful fruit value; scrub fir, hemlock and vine maple.

SEC. 25, E. $\frac{1}{2}$.—Part undisposed of is bench land sloping from 700 to 70 feet; rocky rolling hills with valleys having from 1 to 3 feet red sand loam; 25 per cent fruit land.

SEC. 25, W. $\frac{1}{2}$.—Bench land forming steep mountain slope from 2,400 to 300 feet; rocky with little soil covering rock; scrubby fir, hemlock and vine maple on an old burn.

SEC. 26.—Bench land sloping from 400 to 50 feet above sea level; soil, from 1 to 3 feet red sand, with rocky patches; 60 per cent fruit land; fir and cedar up to 36 inches, of good timber value. In timber berths 144 and 44.

SEC. 27; SEC. 28, (FRAC.); SEC. 33, (FRAC.); SEC. 34, W. $\frac{1}{2}$.—Rocky bench land from 2,500 to 30 feet above sea level; very steep, rocky slopes; jack pine, hemlock and fir up to 20 inches, of little timber value.

SEC. 34, E. $\frac{1}{2}$.—Rocky upland slopes from 3,500 to 2,200 feet; very rugged with forest growth of scrubby balsam, fir and hemlock, of little timber value.

SEC. 35, W. $\frac{1}{2}$.—Steep sloping bench land from 2,600 to 500 feet, rocky and mountainous; fir, balsam and hemlock, of fair timber value.

SEC. 35, E. $\frac{1}{2}$; SEC. 36, W. $\frac{1}{2}$.—Bench land from 500 to 60 feet above sea level; rocky in places, but nearer river light sandy loam from 12 to 24 inches in depth; 40 per cent fruit land; fir and cedar up to 36 inches, of fair timber value. In timber berths 144 and 498 (2).

SEC. 36, E. $\frac{1}{2}$.—Rugged bench land forming mountain slope from 1,500 to 30 feet above sea level; very little soil over rock; scrub fir, balsam and hemlock on old burn.

A. Lighthall, D.L.S., 1911.—(Partial).—The part surveyed was at Harrison lake and consists of half a mile of line. The section was reached by boat up the Harrison river and lake. The river is navigable for large boats only at certain seasons when the water is high. At such times the Fraser river steam boats can navigate it. The part surveyed was on a rough mountain side and was covered with a heavy growth of fir, cedar and hemlock valuable for logging purposes. The land is not adapted to agriculture. The usual small mountain streams are found. In the early summer when the mountain snows are melting, or after a heavy rainfall, these streams carry a considerable volume of water, but they are often completely dry at other times, and are therefore useless as a means of developing water-power. The climate is slightly less moist than on Pitt lake and also appears to be more subject to extremes of heat and cold. Wood for fuel is plentiful on the mountains, but there is no indication of coal. Stone-quarries can be located almost everywhere along the lake-shore but the stone is not building stone, being suitable only for crushing for cement work and road making. As there is no local demand and transportation facilities are not of the best, it is unlikely that this industry will ever be developed to any great extent. No minerals were found. Game is fairly plentiful and consists of deer, bears and grouse.

Tp. 8, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is made fractional by the west limit of the railway belt. The Silver Creek valley traverses it from north to south with benches of workable land along the creek. These benches are approximately one-half mile in width and are composed of sandy loam soil more or less stony according to the distance from the creek. From the valley the mountains rise very steep and rugged to an altitude of from 3,000 to

5,000 feet. Most of the higher slopes have been burnt over within recent years leaving no timber of value. The northeastern portions of the township are covered with brulé not yet restocked. Merchantable timber of very fair quality is found on the low lands near the creek comprised of fir and cedar up to 36 inches.

SEC. 1.—Rolling bench land sloping from 750 to 100 feet; inclined to be rocky on the northeast at beginning of mountain slope; nearer creek, soil consists of 18 inches light sand loam, of poor agricultural value; 45 per cent fruit land; jack pine, fir and cedar scrub on old burn, of no timber value.

SEC. 2, E. $\frac{1}{2}$.—Bench land comprised of flats along Silver creek, from 75 to 200 feet above sea level; creek emerges from canyon near north boundary and hills fall back leaving benches of sand loam soil suitable for agriculture; 50 per cent fruit land; fir and cedar on flats up to 40 inches diameter, of very good timber value. In timber berth 145.

W. $\frac{1}{2}$.—Very steep mountain side sloping from 2,600 to 100 feet, rocky and precipitous; thick scrubby fir, hemlock and balsam, of little timber value.

SEC. 3, SEC. 10, SW. $\frac{1}{4}$.—Upland sloping from 3,200 to 2,200 feet; rocky and mountainous; thick scrubby balsam and jack pine, of little timber value.

SEC. 10, SE. $\frac{1}{4}$, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$; SEC. 11, SW. $\frac{1}{4}$.—Bench land with very steep slope from 2,600 to 125 feet into Silver creek; mountainous, rocky land; scrubby balsam, fir and hemlock with a few fir and cedar near creek, of timber value.

SEC. 11, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, NE. $\frac{1}{4}$.—Rolling bench land cut by Silver Creek canyon and Clear Creek canyon, from 1,000 to 125 feet above sea level; rocky and useless for fruit growing except in small benches along Silver creek canyon in legal subdivisions 11 and 13; some fir and cedar of timber value on flats. In timber berth 331. On upper slopes new brulé, not restocked in many places.

SECS. 12, 13; SEC. 14, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Bench land sloping from 2,700 to 500 feet; rocky precipitous mountain side cut by deep canyon of Clear creek; dense thickets of fir, hemlock and balsam scrub, recent brulé in west $\frac{1}{2}$ of sec. 13, no timber of value.

SEC. 14, SW. $\frac{1}{4}$.—Bench land sloping from 700 to 150 feet into Silver creek; rocky, steep slope down to flats in legal subdivisions 4, 5, and 16 of sand loam soil, of fair agricultural value, 18 inches in depth and stony in places; 35 per cent fruit land; fir and cedar on flats up to 36 inches, of fair timber value. In timber berth 331.

SECS. 15, 22.—Bench land sloping to Silver creek, from 2,500 to 200 feet; rocky mountain slopes down to flats from $\frac{1}{4}$ to $\frac{1}{2}$ mile wide along creek, composed of 6 to 18 inches light sandy loam, of poor agricultural value; 30 per cent fruit land; timber on flats, fir and cedar up to 40 inches, of very fair timber value. In timber berth 313.

SEC. 23, SW. $\frac{1}{4}$; SEC. 24, SE. $\frac{1}{4}$.—Rocky bench land sloping from 2,800 to 700 feet; mountain slope covered with scrub fir, hemlock and jack pine, of no timber value, old brulé.

SEC. 23, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 24, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SECS. 25, 26.—Upland slopes from 4,000 to 2,400 feet; rocky and mountainous country; brulé, with little scrub fir and balsam.

SEC. 27, E. $\frac{1}{2}$.—Rocky bench land sloping from 2,400 to 900 feet; steep mountain slope covered with brulé and very little scrub.

W. $\frac{1}{2}$.—Bench land from 1,200 to 640 feet above sea level; flats along Silver creek; soil 12 inches to 18 inches white sand, rocky in places; of poor agricultural value; 20 per cent fruit land; fir and cedar up to 36 inches, of fair timber value. In timber berth 313.

SEC. 33, W. $\frac{1}{2}$.—Upland slopes from 3,300 to 2,200 feet above sea level; rocky, precipitous mountain side, swept by avalanches; huckleberry bushes and vine maple scrub.

E. $\frac{1}{2}$.—Bench land slopes from 2,500 to 1,000 feet; avalanche swept slopes, with huckleberry bushes and vine maple scrub.

SEC. 34.—Bench land, sloping to Silver creek from 1,500 to 800 feet above sea level; rocky and precipitous slopes with little soil over rock; brulé with few fir and cedar, up to 36 inches along creek, of fair timber value.

SECS. 35, 36.—Rocky slopes from 1,200 to 4,000 feet; bench land in western legal subdivisions of sec. 35, remainder upland; rugged, steep mountain slopes covered with brulé and a little scrub balsam.

Tp. 9, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This is a fractional township on the west limit of the railway belt. It is very mountainous in character with snow-capped peaks 6,000 feet in altitude and the only land beneath 2,500 feet is in the valley of Silver creek which traverses the township from north to south. However, this bench land is of no value except as timber land, forming as it does precipitous canyon-like walls along Silver creek.

Throughout the township Silver creek tumbles in cascades, with several falls of over 100 feet giving good chances for water-power development.

There is little merchantable timber remaining in the township. Fires have swept up the valley, wiping out the entire forest growth with the exception of a few fir and cedar along the creek and some scrubby balsam on high uplands in the northern part of the township.

Tp. 10, R. 29, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This is a fractional township on the west limit of the railway belt. It consists almost entirely of high mountainous upland with the narrow valley of Silver creek running south through the western sections. The bench land of the valley however, is too rocky and precipitous to be of any value as timber land. The forest growth consists of thick scrubby balsam of little timber value. There is some brulé in the southern sections along Silver creek.

Tp. 3, R. 30, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township consists of bench land bordering on Harrison bay and Fraser river except in the northwest where it rises in secs. 33 and 34 to 4,700 feet to form part of the rocky Gooding mountains. The lands undisposed of, however, are with few exceptions useless for agriculture or fruit growing, being very rocky with little soil or humus on the steep sloping bench land.

Very little merchantable timber still remains standing. The forest growth consisting of hemlock, fir and vine maple generally very scrubby and of little value.

SEC. 9; L. S. 6, (FRAC.); L. S. 10, (FRAC.); L. S. 11, (FRAC.).—Flooded land from 30 to 45 feet above sea level; no agricultural value; cottonwood and willow of no timber value; large areas of barren gravel bars at low water.

SEC. 9; L. S. 13, (FRAC.); L. S. 14, (FRAC.).—Bench land from 60 to 30 feet above sea level; very fertile bottom land, liable to be partially flooded at extreme high water; soil 6 feet of rich black loam; 60 per cent fruit land; fir up to 4 feet in diameter of very good timber value; some old improvements, now deserted.

SEC. 15 (FRAC.).—Parts undisposed of consist of very rocky bench land, from 2,500 to 30 feet above sea level; timber land; scrubby fir, hemlock and vine maple, of little timber value.

SEC. 16, N. $\frac{1}{2}$.—Rocky bench land from 2,640 to 1,200 feet; very little soil on rugged slopes; timber land, scattered scrubby fir, hemlock and balsam, of little timber value.

SEC. 16, S. $\frac{1}{2}$, (FRAC.).—Bench land with very steep south slope; from 1,800 to 60 feet; too rocky and precipitous to be of agricultural value, except in legal subdivisions

3 and 4, where benches of red sandy loam soil are; 50 per cent fruit land; scattered fir up to 40 inches in diameter, of good timber value.

SEC. 17, L. S. 1, (FRAC.).—Bench land from 150 to 30 feet above sea level; good red sandy loam soil from 3 to 18 inches; 60 per cent fruit land; few scattered fir up to 40 inches in brulé, of fair timber value.

SEC. 17, L. S. 2 (FRAC.); L. S. 7 (FRAC.); L. S. 8, 9; L. S. 10 (FRAC.); L. S. 15 (FRAC.); L. S. 16.—Steep rocky sloping bench land from 1,000 to 30 feet above sea level; no agricultural value; brulé with few fir up to 40 inches, of fair timber value.

SEC. 20, SE. $\frac{1}{4}$.—Steep rocky sloping bench land from 1,200 to 100 feet; no agricultural value; timber land, fir up to 36 inches, of good timber value. In timber berth 339.

SEC. 21, S. $\frac{1}{2}$ (FRAC.).—Very rocky steep sloping bench land from 1,800 to 35 feet; no value except as timber land; moss and scrubby fir and hemlock over rock, no timber of value.

SEC. 21, N. $\frac{1}{2}$, (FRAC.).—Bench land from 600 to 30 feet; soil from 3 to 18 inches red sand over loose rock; 30 per cent fruit land; vine maple, fir and hemlock scrub, of little timber value.

SEC. 22 (FRAC.).—Parts undisposed of consist of rocky bench land, sloping from 2,500 feet to 35 feet above sea level; no value as timber land; scrubby fir, hemlock and vine maple, of no timber value.

SEC. 25, (FRAC.).—Parts undisposed of consist of rocky bench land, sloping from 600 to 40 feet; little rocky ridges with sand loam soil between; 35 per cent fruit land; hemlock and fir up to 30 inches, of fair timber value.

SEC. 27, NE. $\frac{1}{4}$, (FRAC.).—Steep sloping bench land from 700 to 35 feet above sea level; rocky and of no value except as timber land; scrub vine maple and hemlock, of no timber value.

SEC. 28, N. $\frac{1}{2}$, (FRAC.); 29, N. $\frac{1}{2}$, (FRAC.).—Bench land consisting of very rocky steep slope from mountains; from 2,500 to 35 feet above sea level; no value except as timber land; some hemlock up to 24 inches, of fair timber value in hemlock, fir and vine maple scrub.

SEC. 32, (FRAC.); SEC. 33, W. $\frac{1}{2}$.—Rugged upland rising from 2,400 to 4,700 feet; rocky and mountainous, of no value except as timber land, scrubby hemlock, balsam and fir, of no timber value.

SEC. 33, E. $\frac{1}{2}$.—Very steep slopes from 400 to 2,700 feet above sea; bench land, rocky and precipitous, of no value except as timber land, scrubby fir, hemlock and balsam, of little timber value.

SEC. 34, L.S. 1.—Bench land, sloping from 700 to 30 feet above sea level, rocky to west but for most part of good agricultural value; 18 inches gravelly loam, merchantable timber cut off, fir and alder scrub.

L.S. 2, 3, 4.—Rocky ridge, from 2,000 to 330 feet above sea level; bench land, but of no value except as timber land; scrubby fir, hemlock and vine maple, of little timber value.

L.S. 5, 6, 7, 8, 9, 10, 11, 12.—Bench land sloping to Jap lake and Jap creek, from 1,000 to 400 feet above sea level; rocky at higher altitude, but with a rich flat around lake and along creek of fine agricultural land; 18 inches black loam; 75 per cent fruit land; merchantable timber cut, hemlock, fir and vine maple scrub.

L.S. 13, 14, 15, 16.—Rocky bench land of no agricultural value; from 1,500 to 600 feet above sea level; merchantable timber cut, hemlock, fir and vine maple scrub, of little value.

SEC. 36 (FRAC.).—Steep sloping bench land, from 1,500 to 30 feet; greater part rocky, but some benches of sandy loam suitable for agriculture; 20 per cent fruit land; heavy growth of hemlock and fir scrub with a few fir up to 30 inches in diameter, of fair timber value.

P. Melhuish, D.L.S., 1914.—This township is situated about 40 miles east of Vancouver and is reached by the Canadian Pacific railway to Harrison Mills, or by the British Columbia Electric railway to Chilliwack. It can also be reached by boat up the Fraser river from New Westminster. The part of the township to the east of Harrison river and south of Fraser river is flat and well suited for farming. With the exception of a few flats the remainder of the township is mountainous. The soil of the flat land is alluvial and can be profitably used for mixed farming. On the mountain sides the soil as a rule is gravelly, but could be used for mixed farming on a small scale. The timber on the mountain sides consists of fir, cedar, birch, maple and alder, and on the flat land cottonwood, alder, birch, willow and crabapple. No hay is produced for the market but there is enough for local needs. There is a permanent supply of fresh water from the Fraser and Harrison rivers and the numerous mountain streams. None of these latter, however, are large enough for power purposes. A considerable area of flat land is liable to be flooded in the spring by the overflow from the Fraser and Harrison rivers, the difference between high and low water being about 8 feet. On the south side of the Fraser river dykes have been built. Twelve islands in the Fraser river, varying from 2 to 80 acres in area (excluding Queen's island) were traversed. That part of Queen's island in this township consisting of about 220 acres was also traversed. These islands are alluvial. The upper soil is sandy and the subsoil is gravelly. The possibility of some of the islands being flooded once in a decade need not prevent their being used for agricultural purposes. The climate is good and summer frosts are unknown. Irrigation is not required. There is ample fuel for domestic purposes in the fir, birch and alder on the mountain sides. The stone in the township is not suitable for building purposes as it tends to weather too quickly. It can, however, be used for road metal. No minerals of economic value were found. Tunnels have been driven on the mountain sides in sections 16 and 25 in the hope of finding gold or copper. With the exception of some of the islands in the Fraser river, all the good land is either patented or held as homesteads. A considerable area of good patented land on the south side of the Fraser river has never been cleared.

Tp. 4, R. 30, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township contains the lower Chehalis River valley running diagonally from the northwest to southeast corners. This valley is approximately one mile in width, with soil of a rich sand loam well adapted to agriculture and fruit growing. From the valley mountains rise to an altitude of 4,500 feet on the west and 3,500 feet on the east. These mountains form slopes too steep and rocky for fruit growing or agriculture, but are covered with a heavy forest growth. The timber in the valley is very valuable, consisting of thick fir and cedar up to 60 inches in diameter, but on ascending the mountains the timber becomes less valuable and *brulé* is found especially in the eastern part of the township.

SEC. 1. (FRAC.).—Low flood land from 50 feet to 30 feet above sea level, consisting of islands and points at mouth of Chehalis river and Harrison river; no agricultural value unless dyked; rich alluvial soil; cottonwood, birch, willow and alder, of no timber value.

SEC. 2, S. $\frac{1}{2}$ (FRAC.).—Flood land from 50 to 30 feet above sea level; no agricultural value unless dyked; rich alluvial soil; good grazing among willow bushes, under grazing lease.

SEC. 3.—Rocky bench land sloping from 1,500 feet to 200 feet above sea level; very rugged and broken by cliffs and ravines; no agricultural value; small lake about 25 acres in northwest quarter, with 10 acres swampy land at north and in L.S. 7, hemlock, cedar and jack pine, of little timber value.

SEC. 4; SEC. 5, (FRAC.); SEC. 8, (FRAC.); SEC. 9.—Precipitous upland, sloping from 4,000 feet to 2,200 feet, except L.S. 1, 8, 9 and 16 in section 4 and section 9, bench land sloping from 2,600 feet to 1,200 feet; too rocky and steep to be of agricultural value; scrubby fir, hemlock and balsam of little timber value.

SEC. 10.—Bench land sloping from 1,500 feet to 100 feet; rocky, with little soil except legal subdivision 16 where 6 inches to 8 inches loam is found; of agricultural value and 35 per cent fruit land; heavily timbered with fir from 20 to 36 inches, of good value. In timber berth 517.

SEC. 11 (FRAC.).—Parts undisposed of consist of bench land from 500 to 40 feet above sea level; legal subdivisions 11 and 12 are flat benches of deep alluvial sandy loam, of very good agricultural value and 90 per cent fruit land; to the north in legal subdivisions 13, 14, 15 (Frac.), 16 (Frac.), land rises sharply and is somewhat rocky, 36 per cent fruit land.

SEC. 13 (FRAC.).—Narrow strip along west of Indian reservation; 3.34 chains in width and bordering west boundary of section; bench land from 500 feet to 60 feet above sea level; soil in south deep alluvial sandy loam rising to the north to mountain and becoming rocky; 75 per cent fruit land; birch, cedar, and hemlock, of little timber value.

SEC. 14, L.S. 1, 8.—Bench land from 40 feet to 80 feet above sea level; deep alluvial soil of sandy loam, of very good agricultural value; 90 per cent fruit land; fir and cedar up to 40 inches, of good timber value. In timber berth 284.

L.S. 2, 3, 4, 5, 6, 12, 13, 14.—Rolling bench land sloping to Chehalis river, from 450 feet to 40 feet above sea level; soil 18 inches gravelly loam with stony patches; good agricultural value; 60 per cent fruit land; fir 20 inches to 36 inches, about 20 acres. In timber berth 517.

L.S. 7, 9, 10, 11, 15, 16.—Rocky bench land in vicinity of first canyon of Chehalis river, from 1,500 feet to 60 feet above sea level; little soil of agricultural value; hemlock, fir and cedar scrub in old *brulé*, with few large fir up to 48 inches. In timber berths 517 and 284.

SEC. 15, E. $\frac{1}{2}$.—Rolling bench land with general slope to Chehalis river, from 800 feet to 200 feet above sea level; sand loam over loose rock, of 40 per cent to 50 per cent fruit value; best land towards river; fir and cedar up to 40 inches, of good timber value. In timber berth 517.

W. $\frac{1}{2}$.—Bench land with steep slope from 1,200 feet to 500 feet; little soil over loose rock and of doubtful value agriculturally; cedar and fir up to 36 inches, of good timber value. In timber berth 517.

SEC. 16, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Steep rocky slope from 2,600 feet to 700 feet; bench land of no agricultural value; cedar, fir and hemlock up to 30 inches, of fair timber value. In timber berth 517.

SEC. 16, NW. $\frac{1}{4}$; SEC. 17 (FRAC.); SEC. 20 (FRAC.); SEC. 21, SW. $\frac{1}{4}$.—Rugged upland sloping from 4,200 feet to 2,300 feet; rocky and precipitous, useless agriculturally; scrubby balsam, hemlock and fir, of no timber value.

SEC. 21, SE. $\frac{1}{4}$, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Steep, rocky, sloping bench land from 2,500 to 900 feet above sea level; very little soil except in legal subdivision 16 where 12 inches stony, sandy loam occurs; 25 per cent fruit land; heavily timbered with valuable cedar, fir and hemlock up to 28 inches. In timber berth 517.

SEC. 22, L.S. 1, 2, 3.—Bench land sloping to Chehalis river from 700 feet to 150 feet; broken by ravines, but some nice level benches of 18 inches rich sandy loam; 50 per cent fruit land; *brulé* with fir and cedar up to 48 inches near river, of excellent timber value.

L.S. 4, 5.—Rocky bench land sloping from 1,200 feet to 700 feet; no soil or slope suitable for agriculture; fir and hemlock up to 30 inches, of good timber value. In timber berth 517.

L.S. 6, 7.—Bench land sloping to Chehalis river, from 800 feet to 300 feet above sea level; good agricultural value, but badly cut up by ravines; soil 18 inches sand loam, gravelly in places; very good agricultural value; 75 per cent fruit land; fir, cedar and hemlock up to 48 inches, of very good timber value. In timber berth 254 (2).

L.S. 8 9.—Bench land from 1,200 feet to 500 feet above sea level; soil sandy loam, very stony on eastern side; fair agricultural value; 40 per cent fruit land; brulé and hemlock and fir scrub, with few scattered fir of timber value. In timber berth 254 (1).

L.S. 10, 11, 12, 13, 14, 15.—Bench land from 1,000 feet to 420 feet above sea level; rocky at high elevations, with better soil near river, 3 inches to 18 inches sandy loam of good agricultural value; from 40 per cent to 80 per cent fruit lands; very heavily timbered with fir and cedar up to 48 inches. In timber berths 280 and 254 (1).

L.S. 16.—Steep rocky bench land from 1,900 feet to 600 feet above sea level; no agricultural value; brulé, with few scattered fir up to 36 inches.

SEC. 23, SW. $\frac{1}{4}$.—Bench land from 2,000 feet to 80 feet above sea level; rocky and no value agriculturally except in legal subdivisions 4 and 5 where in benches along Chehalis river 18 inches of rich sandy loam of 60 per cent fruit land exists; brulé with scattered clumps of fir up to 40 inches. In timber berths 44 and 521 (1).

SEC. 24, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Steep rocky bench land sloping from 2,500 feet to 900 feet; no agricultural value; brulé, with fir up to 36 inches, of good timber value, in clumps. In timber berth 521 (1).

SEC. 26.—Rocky with two steep slope to be of agricultural value; legal subdivisions 1, 7, 8, 9, 10, 14, 15 and 16, are upland from 2,400 feet to 3,300 feet, and legal subdivisions 2, 3, 4, 5, 6, 11, 12 and 13, are bench land from 1,000 feet to 2,600 above sea level; scrubby fir, hemlock and balsam in brulé; of little timber value.

SEC. 27, L.S. 1, 2.—Bench lands along Chehalis river; from 1,000 feet to 250 feet above sea level; soil 12 inches to 18 inches red sandy loam, getting steep and stony on east side; 40 per cent to 75 per cent fruit land; brulé and hemlock thickets with scattered fir and cedar up to 48 inches. In timber berth 254 (1).

SW. $\frac{1}{4}$.—Rolling bench lands from 500 feet to 120 feet above sea level; soil 12 inches to 36 inches red sandy loam, of good agricultural value; from 60 per cent to 80 per cent fruit land; cedar and fir up to 48 inches, of very good timber value.

L.S. 7, 8 and NE. $\frac{1}{4}$.—Bench land with steep rocky slope from 1,900 feet to 800 feet; very little soil over rock; useless agriculturally; brulé, hemlock and fir scrub, with few bunches of fir up to 36 inches. Partly included in timber berth 298.

NW. $\frac{1}{4}$.—Bench land from 1,500 feet to 500 feet above sea level; stony and steep slope on east side but generally of good agricultural value; soil varies from 18 inches to 2 inches gravelly sandy loam on going from west to east; 70 per cent fruit land, fir and cedar up to 40 inches, of very good timber value.

SEC. 28, L.S. 1, 2.—Bench land from 900 feet to 400 feet above sea level; rocky in higher parts but generally from 6 inches to 18 inches red sand loam of good agricultural value; 50 per cent fruit land; very heavily timbered with fir and cedar up to 48 inches, of excellent timber value.

SW. $\frac{1}{4}$.—Rocky bench land from 2,000 feet to 600 feet above sea level; too steep slopes to be of agricultural value; fir and hemlock up to 36 inches, of good timber value. In timber berth 280.

L.S. 7, 8, 9, 10, 11.—Bench land sloping to Chehalis river from 800 feet to 480 feet; level benches of very fine sandy loam 6 inches to 18 inches; somewhat steep and rocky to the west; 50 per cent to 100 per cent fruit lands; heavily timbered with fir and cedar up to 60 inches, of excellent value. In timber berths 280, 254 and 521 (2).

L.S. 12 13.—Bench land from 1,200 feet to 600 feet; too steep and rocky to be of agricultural value; fir and hemlock up to 36 inches, of good timber value. In timber berth 280.

L.S. 14, 15, 16.—Bench land from 700 feet to 480 feet above sea; some fine level benches of 18 inches sandy loam, of fine agricultural value; 75 per cent to 100 per cent fruit land; very heavily timbered with fir, cedar and hemlock up to 48 inches. In timber berths 254 and 521 (2).

SEC. 29 (FRAC.).—Rocky, steep slope with some upland in southern part rising to an altitude of 3,000 feet; bench land slopes to 800 feet and is too steep and rocky to be of agricultural value; fir and hemlock up to 36 inches, of fair timber value. Partly included in timber berth 280.

SEC. 32 (FRAC.).—Bench land from 1,200 feet to 550 feet above sea level, rising rocky and steep to the south; soil 3 inches to 18 inches sandy loam, of good agricultural value; 60 per cent fruit land; fir and hemlock up to 36 inches, of good timber value. In timber berths 518 and 264.

SEC. 33.—Bench land from 1,400 feet to 550 feet above sea level, becoming rocky with steep slope and useless agriculturally in the northeast, but other parts of the section are of very good agricultural value; 18 inches of rich sand loam in nearly level benches along the river; 75 per cent to 100 per cent fruit land; fir, cedar and hemlock of excellent timber value. In timber berths 521 (2) and 298.

SEC. 34, SW. $\frac{1}{4}$.—Bench land, from 2,000 feet to 600 feet above sea level; only land of agricultural value is in legal subdivision 4; sandy loam up to 18 inches, very stony towards north and east; 35 per cent fruit land; remainder of parcel is rocky, steep side hill; fir and cedar up to 30 inches, of good timber value on lower slopes; scrub on upper slopes. In timber berth 298.

NW. $\frac{1}{4}$.—Rocky bench land with very steep slope from 2,600 feet to 900 feet; useless agriculturally; scrubby hemlock and fir in old brûlé.

E. $\frac{1}{2}$.—Steep rocky mountain slope; upland from 3,200 to 2,200 feet; useless agriculturally; scrubby fir, hemlock and balsam in brûlé; no timber value.

SEC. 35, 36.—Rocky upland; steep rugged slopes from 3,500 to 2,200 feet; useless agriculturally; scrubby fir, hemlock and balsam in brûlé; no timber value.

Tp. 5, R. 30, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is very rugged and mountainous. The only land of agricultural value is found in the southwest in the Chehalis River valley. Here from 800 to 1,000 acres of rich red sandy loam benches may be classified as excellent fruit lands. The forest growth on these benches is very luxuriant, consisting of fir and cedar up to 48 inches and of excellent timber value. In most of the valleys and gulches below 2,500 feet merchantable timber is found, consisting of fir, cedar and hemlock, but on the uplands the scrubby nature of the fir, balsam and hemlock make them of doubtful timber value.

SEC. 1; SEC. 2; SEC. 3, SE. $\frac{1}{4}$.—Rocky upland from 3,500 to 2,400 feet above sea level; no agricultural value; scrubby fir, balsam and hemlock in brûlé, of no timber value.

SEC. 3, SW. $\frac{1}{4}$; NW. $\frac{1}{4}$; NE. $\frac{1}{4}$; SEC. 4, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$.—Rocky bench land with steep slope from 2,600 to 1,000 feet; no agricultural value; hemlock and fir scrub in brûlé.

SEC. 4, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Bench land with slope from 1,500 to 700 feet; much broken by steep, rocky slopes and canyon of Paradise creek, but with fair benches of red sandy loam up to 18 inches in depth; fair agricultural value; 30 per cent to 50 per cent fruit land; fir and hemlock up to 36 inches, of good timber value, some brûlé. In timber berth 298 (2).

SEC. 5 (FRAC.).—Bench land from 900 to 550 feet above sea level; benches of rich loam from 18 inches to 3 feet in depth, of fine agricultural value; 75 per cent to 90 per cent fruit land, fruit ripens a week later than at mouth of river; fir and cedar and hemlock up to 48 inches, of very good timber value. In timber berths 298 (2) and 264.

SEC. 8 (FRAC.); S. $\frac{1}{2}$.—Bench land from 1,200 to 800 feet above sea level; soil 10 to 18 inches rich loam, of good agricultural value; 80 per cent fruit land; very luxuriant growth of fir, hemlock and cedar up to 48 inches, of excellent timber value. In timber berth 272 (2).

SEC. 8 (FRAC.); N. $\frac{1}{2}$.—Bench land from 2,000 to 1,000 feet above sea level; stony and rather steep to the north, but with 8 to 18 inches sandy loam of fair agricultural value; 40 per cent fruit land; cedar and fir up to 36 inches, of good timber value, much fallen timber. In timber berth 272 (2).

SEC. 9.—Bench land from 2,400 to 1,000 feet above sea level; too steep and rocky to be of agricultural value except in legal subdivisions 4 and 5, where slope is not so steep and soil from 3 to 10 inches stony loam; 35 per cent fruit land; hemlock and fir up to 30 inches, of fair timber value. In timber berth 272 (2).

SEC. 10; 11, NE. $\frac{1}{4}$; NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Rocky bench land from 2,600 to 1,200 feet, sloping to Paradise creek; too rough and rocky to be of agricultural value; brulé with fir and hemlock along creek, up to 30 inches, of fair timber value. In timber berth 521 (3).

SEC. 11, SE. $\frac{1}{4}$; SECS. 12, 13, 14, 15.—Rocky upland from 4,500 to 2,400 feet above sea level; very precipitous and rocky with snow fringe along ridge; no agricultural value; scrubby fir, balsam and hemlock, of little timber value.

SEC. 16; SEC. 17 (FRAC.); SEC. 20 (FRAC.); SEC. 21.—Bench land from 2,600 to 1,200 feet; so steep and rocky to be useless agriculturally; hemlock, fir and cedar up to 30 inches of fair timber value. In timber berth 521 (4).

SECS. 22, 23, 24, 25, 26.—Rocky upland from 4,500 to 2,200 feet; snow fringe along rocky ridge; very steep, rocky slopes; no agricultural value; scrubby balsam, fir and hemlock, of no timber value.

SEC. 27.—Very rugged bench land, with steep slope from 3,000 to 1,400 feet; no benches of agricultural value or suitable for fruit growing; fir, cedar and hemlock up to 36 inches, of fair timber value.

SEC. 28, S. $\frac{1}{2}$, EXCEPT L. S. 8.—Precipitous bench land sloping from 2,600 to 1,200 feet; rocky and of no agricultural value; brulé partly restocked with fir and hemlock scrub, few fir and cedar up to 36 inches along creek, of fair timber value.

SEC. 27, N. $\frac{1}{2}$; SEC. 20 (FRAC.); SEC. 32 (FRAC.); SECS. 33, 34, 35, 36.—Precipitous upland slopes from 2,200 to 4,200 feet; very rocky with bare avalanche swept slopes; brulé in sec. 27 and sec. 29 partly restocked with fir and hemlock scrub; remainder of tract covered with scrubby balsam, fir and cedar in sheltered places, timber of little value.

Tp. 6, R. 30, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

This fractional township is rocky and extremely mountainous in the southern parts. The lands of agricultural value lie in the Eagle Creek valley and the Moose Creek valley in sections 17 and 20 and sections 26, 27 and 35. These fertile bench lands have alluvial soil of fine quality. The forest growth is the heaviest found in the district and reputed to be the best timber value in British Columbia. Therefore notwithstanding the season being from two to three weeks late, these valleys will very probably become valuable fruit lands when cleared. Outside the valleys the land is rocky and above 2,500 feet, the timber consisting of balsam, fir, hemlock and cedar becoming so scrubby as to be of little timber value.

SEC. 1, 2, 3; SEC. 4, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rocky, precipitous upland from 3,900 to 2,400 feet above sea level; useless for agriculture, scrubby balsam, fir and hemlock on ledges, with avalanche swept slope covered with small bushes, no timber of value.

SEC. 4, NW. $\frac{1}{4}$; SEC. 5 (FRAC.); SEC. 8 (FRAC.); SEC. 9, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$, NE. $\frac{1}{4}$.—Bench land with exceedingly steep slope from 2,600 to 600 feet down to Chehalis lake; rocky and of no agricultural value; scrubby fir, cedar and hemlock of little timber value. In timber berth 521 (5).

SEC. 9, SE. $\frac{1}{4}$; SEC. 10, 11; SEC. 12, W. $\frac{1}{2}$; SEC. 13, SW. $\frac{1}{4}$; SECS. 14, 15.—Rocky upland mountain ridges with steep rocky slopes from 3,800 to 2,200 feet; no agricul-

tural value; scrubby balsam, fir, cedar and hemlock of fair timber value, in ravines, partly included in timber berth 413.

SEC. 12, E. $\frac{1}{2}$; SEC. 13, NW. $\frac{1}{4}$, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rugged bench land sloping from 2,600 to 1,500 feet, rocky and useless for agriculture; scrubby balsam, fir and hemlock of fair timber value. In timber berth 413.

SEC. 16.—Bench land with very steep slope from 2,600 to 600 feet; rocky and useless for fruit growing or agriculture except in legal subdivisions 5, 12 and 13; benches here with 4 to 12 inches sandy loam; quite stony, but 30 per cent fruit land; on lower slopes fir and hemlock up to 36 inches, of good timber value. In timber berth 302 (3).

SEC. 17 (FRAC.); SEC. 20 (FRAC.).—Bench land from 1,200 to 600 feet along Eagle creek; alluvial benches of rich sandy loam of fine agricultural value; 60 per cent fruit land; seasons two weeks later than down in the Fraser valley; very heavily timbered with fir, cedar and hemlock up to 60 inches of excellent value. In timber berth 302 (3).

SEC. 21; SEC. 22, N. $\frac{1}{2}$.—Rocky bench land sloping from 2,600 to 1,000 feet; no depth of soil over rocks; fir, hemlock and balsam up to 36 inches, of fair timber value. In timber berth 520.

SEC. 22, S. $\frac{1}{2}$; SEC. 23, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 24, W. $\frac{1}{2}$.—Rock upland from 3,000 to 2,400 feet; very rugged and little soil over rock; fir, balsam and hemlock up to 36 inches, of fair timber value. In timber berths 520 and 413.

SEC. 23, NW. $\frac{1}{4}$; SEC. 24, E. $\frac{1}{2}$.—Rocky bench land slopes from 2,600 to 1,600 feet above sea level; no depth of soil over rock and very steep slopes; fir 18 to 30 inches diameter, about 8 to acre. In timber berth 413.

SEC. 25, SE. $\frac{1}{4}$.—Upland very rugged and rocky, sloping from 2,900 to 2,300 feet; scrubby balsam and fir of little timber value. In timber berth 426.

NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rugged sloping bench land from 2,600 to 1,400 feet above sea level; very little soil over rock; fir, hemlock and balsam up to 36 inches, of fair timber value on lower slopes. In timber berth 426.

SEC. 26, L.S. 3, 4, 9 and SE. $\frac{1}{4}$.—Rugged, steep, rocky slopes; bench land from 2,500 to 1,300 feet; little soil over rock; fir, cedar and hemlock up to 36 inches, getting scrubby at higher elevations. In timber berth 426.

L.S. 5, 6, 10, 15, 16 and NW. $\frac{1}{4}$.—Bench land from 1,800 to 1,200 feet; wide valley with rich alluvial soil, somewhat swampy but easily drained, from 6 inches sandy loam on upper slopes to an unknown depth of sandy loam in valley bottom, of excellent agricultural value; apparently an old lake bottom filled in by soil washed down from surrounding mountains; 75 per cent fruit land; very heavily timbered around swamps, with fir and cedar up to 72 inches diameter, and of excellent value. In timber berths 91 and 426.

SEC. 27.—Bench land from 2,200 to 1,250 feet, slopes rugged and steep with little soil over rock except legal subdivisions 8 and 9, where valley land begins, and soil is from 6 to 36 inches sand loam of fine agricultural value; 40 per cent fruit land; fir and cedar up to 60 inches on lower lands, higher up, hemlock and fir up to 36 inches of fair quality. In timber berths 91 and 520.

SEC. 28.—Rugged bench land from 2,900 to 1,000 feet; steep and rocky, with little soil over rock; fir, hemlock and balsam up to 40 inches, scattered, but of fair timber value. In timber berth 520.

SEC. 29 (FRAC.).—Rugged bench land from 2,400 to 1,400 feet above sea level; rocky and with little soil except in legal subdivisions 1 and 2 (Frac.) where benches of 18 inches gravelly loam occur, of 35 per cent fruit land; fir and cedar up to 48 inches, of good timber value. In timber berth 520.

SEC. 32 (FRAC.).—Rugged rocky bench land from 2,600 to 2,000 feet; with little soil over rock; cedar and fir up to 36 inches, of fair timber value. In timber berth 520.

SECS. 33, 34.—Rocky upland slopes from 3,500 to 2,400 feet; very little soil on mountain slopes; scrubby fir, hemlock and balsam on upper slopes, of little timber value. Partly included in timber berth 520.

SEC. 35, L.S. 3 AND SE. $\frac{1}{4}$.—Bench land from 1,800 to 1,200 feet above sea level; rich alluvial soil in valley bottom, with slopes to valley with 6 inches to 18 inches sand loam, becoming stony at higher elevations, fine agricultural value; 75 per cent fruit land; very heavily timbered with fir and cedar up to 60 inches, of excellent timber value. In timber berths 91 and 426.

SEC. 35, L.S. 5, 6 AND N. $\frac{1}{2}$.—Rocky bench land with steep slope from 2,500 to 1,500 feet; little soil on mountain side; fir, hemlock and balsam up to 30 inches, of fair timber value. In timber berth 426.

SEC. 36.—Bench land from 2,500 to 900 feet above sea level; very steep rocky slopes to Moose Creek valley which forms a canyon here; no soil of any value over rock except in legal subdivisions 5, 6 and 11, where in valley flats of rich alluvial soil occur of good agricultural value, 35 per cent fruit land; good fir in valley but scrubby on steep slopes. In timber berth 426.

Tp. 7, R. 30, W. 6th Mer. *G. A. Bennett, D.L.S., 1910.*

Only sec. 1 of this township is within the Railway Belt and consists of a steep mountain slope with very little soil over the rock. Its altitude is from 3,500 to 2,000 feet above sea level, and therefore mostly upland. Scrubby fir, balsam and hemlock of very little timber value, with some brulé in the southeast $\frac{1}{4}$. In timber berth 426.

Tp. 3, R. 1, W. 7th Mer. *G. A. Bennett, D.L.S., 1910.*

Fractional township between the 4th and 5th systems of surveys. Very mountainous in character, with only a few acres of land in the bottom of Suicide Creek valley suitable for fruit growing or agriculture. The timber consists of fir, cedar and hemlock on the bench land, of fair merchantable value. The uplands are generally covered with scrubby balsam and hemlock of no timber value.

SEC. 31 (FRAC.)—Steep, rocky, sloping upland 2,800 to 4,000 feet; no agricultural value; scrubby fir and hemlock, of little timber value.

SEC. 32, 33 (FRAC.)—Steep slopes to Suicide creek, from 1,000 to 2,500 feet; little benches along creek of varying width from 100 to 400 yards of 3 to 12 inches gravelly sand soil; suitable for fruit growing but seasons very late; upper slopes very rocky and of no agricultural value; fir and cedar up to 36 inches, of fair timber value. In timber berth 501.

SECS. 34, 35, 36 (FRAC.)—Rugged upland 2,500 to 4,000 feet; very rocky and broken by cliffs; no agricultural value; scrubby fir, balsam, and hemlock, of little timber value. Partly included in timber berth 502.

Tp. 4, R. 1, W. 7th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is mountainous in character, having many peaks above 4,500 feet and the only lands below 2,500 feet are those in the valley of the Suicide creek which drains the southern part of the township, and in the valley of the Statlu creek in the northern part of the township. The slopes down from the snow-capped rocky summits to the valleys are, with few exceptions, too steep and rocky to be of any value except as timbered land. The timber growth at high altitude consists of very scrubby balsam and fir, but below 2,500 feet cedar, fir and hemlock are found up to 40 inches of fair timber value. Almost all timber of value is now held under timber leases.

SECS. 1, 2, 3.—Steep precipitous northern slope; north half bench land from 1,500 to 2,600 feet; south half up land from 2,200 to 4,600 feet; very mountainous and

rocky; of no agricultural value; cedar, fir and hemlock up to 36 inches, of fair timber value below 2,500 feet, on higher altitudes scrubby balsam, fir and hemlock, of little value.

SEC. 4.—Steep precipitous western slope to Suicide creek; bench land from 1,200 to 2,600 feet except upland, legal subdivisions 8, 9 and 10 from 2,400 to 3,600 feet; very rocky and of no agricultural value except legal subdivisions 11 and 13, where soil is sandy, gravelly loam 3 to 12 inches in benches along creek, 25 per cent fruit land; fir and cedar up to 36 inches, of good timber value below 2,500 feet; scrubby above timber berth 501.

SEC. 5.—Steep, rocky, sloping bench land from 1,100 to 2,600 feet; of no agricultural value except small benches along Suicide creek in legal subdivisions 1, 8 and 9 of gravelly, sandy loam soil, 25 per cent fruit land; fir and cedar up to 36 inches, of fair timber value. Timber berth 501.

SECS. 6, 7, W. $\frac{1}{2}$.—Rocky, precipitous upland slopes from 2,400 to 3,600 feet; timber land, scrubby fir, balsam and hemlock, of little timber value.

SECS. 7, 8, E. $\frac{1}{2}$.—Steep rock bench land slopes from 1,300 to 2,600 feet; timber land, fir and cedar up to 36 inches, of fair timber value. Included in timber berths 501, 505 (2), 505 (3).

SEC. 9.—Steep rocky, sloping bench land from 1,250 to 2,000 feet; some benches of agricultural land from 200 to 400 yards wide along Suicide creek, soil, sandy gravelly loam, located in legal subdivisions 4, 5, 12, 13, 14, 15 and 16; seasons very short; 20 per cent fruit land; fir, cedar, and hemlock up to 30 inches, of fair timber value. Timber berths 501 and 502.

SEC. 10.—Steep, rocky, sloping bench land from 1,450 to 2,600 feet; some benches of agricultural value from 100 to 300 yards wide along Suicide creek, soil, sandy gravelly loam, located in legal subdivisions 11 and 12; 15 per cent fruit land; fir and cedar up to 30 inches, of fair timber value. Timber berth 502.

SEC. 11, SW. $\frac{1}{4}$ AND L. S. 1, 2, 11, 12.—Steep, rocky bench land from 2,600 to 1,500 feet; timber land; fir, cedar, and hemlock up to 30 inches, of fair timber value. Included in timber berth 502.

SEC. 11, NE. $\frac{1}{4}$ AND L. S. 7, 8, 13, 14.—Rocky, precipitous upland slopes, from 2,200 to 4,000 feet; timber land, scrubby fir and balsam, of little timber value.

SECS. 12, 13, 14, 15, E. $\frac{1}{2}$.—Rocky, precipitous upland slopes from 2,400 to 4,700 feet; snowy peaks and areas of bare rock; timber land, scrubby balsam, fir and hemlock of little value in ravines.

SEC. 15, W. $\frac{1}{2}$; SEC. 16; SEC. 17, E. $\frac{1}{2}$; SW. $\frac{1}{4}$.—Steep, rocky slopes of bench land from 1,500 to 2,600 feet; too steep and rocky to be of agricultural value; small mountain lake in sec. 16 of 20 acres; timber land, scrubby fir, balsam and cedar of some timber value. Included in timber berth 505 (3).

SEC. 17, NW. $\frac{1}{4}$.—Rugged, rocky upland from 2,200 to 3,400 feet; timber land, scrubby fir and balsam of little value.

SEC. 18.—Steep, rocky bench land sloping from 1,500 to 2,600 feet except legal subdivisions 14, 15 and 16, which are upland; no land of agricultural value; timber land, fir and cedar on bench land of fair timber value. Timber berth 505 (2).

SECS. 19, 20, 22, 23, 24.—Rocky, precipitous upland sloping from 2,200 to 4,700 feet; snow-capped peaks and bare rocky slopes; poor timber land; scrubby balsam and fir in ravines, of little timber value.

SEC. 21, S. $\frac{1}{2}$.—Steep, rocky bench land slopes from 1,600 to 2,600 feet, of no agricultural value; scrubby fir and balsam of some timber value. Included in timber berth 502.

SEC. 21, N. $\frac{1}{2}$.—Precipitous rocky upland sloping from 2,200 to 4,000 feet; poor timber land, scrubby fir and balsam, of some timber value. Included in timber berth 502.

SEC. 25.—Northern half is steep, rocky bench land slopes, from 1,000 to 2,500 feet, while south half is precipitous upland slopes from 2,300 to 3,500 feet; no soil of agricultural value; fir and cedar up to 40 inches, getting scrubby at high altitudes, of fair timber value. Included in timber berth 518.

SEC. 26, SE. $\frac{1}{4}$.—Steep, rocky upland sloping from 2,400 to 3,300 feet; poor timber land, scrubby balsam and hemlock of little timber value. Included in timber berth 518.

SEC. 26, SW. $\frac{1}{4}$; NE. $\frac{1}{4}$; NW. $\frac{1}{4}$.—Rugged, rocky bench land sloping to north from 900 to 2,600 feet; good timber land, cedar up to 40 inches, of good timber value, hemlock and balsam under 15 inches. Included in timber berth 518.

SEC. 27.—Rugged, rocky, steep sloping bench land from 900 to 2,600 feet except legal subdivisions 2, 3, 4, 6 and 7, which are upland sloping from 3,600 to 2,400 feet; of no agricultural value; good timber land, cedar, hemlock and balsam up to 40 inches, of good timber value in ravines. Included in timber berth 518.

SEC. 28; SEC. 29, E. $\frac{1}{2}$.—Rugged, precipitous mountain slopes from 4,400 to 2,200 feet; snow-capped rocky ridge, with little soil on slopes; poor timber land, scrubby balsam, hemlock and cedar, with some timber value in ravines. Included in timber berth 518.

SEC. 29, W. $\frac{1}{2}$; SEC. 30, E. $\frac{1}{2}$; SEC. 30, L. S. 6, 11, 14.—Very steep, rocky slopes from 2,700 to 1,300 feet; of no value except as timber land, scrubby balsam, fir and cedar, of fair timber value in valleys.

SEC. 30, L.S. 3, 4, 5, 12, 13.—Rugged, rocky upland sloping from 3,600 to 2,200 feet; poor timber land, scrubby balsam of no timber value.

SEC. 31.—Steep, rocky, sloping bench land from 1,100 to 2,700 feet, except legal subdivisions 8, 9, 15 and 16, which are mountainous upland sloping from 2,400 to 3,500 feet; timber land, scrubby fir, hemlock, cedar and balsam of little timber value except in bottom of ravine, where fairly good timber values in cedar and fir up to 36 inches are found.

SEC. 32, SW. $\frac{1}{4}$ and L.S. 1, 2, 12, 13.—Mountainous upland slopes from 2,200 to 4,000 feet; rocky and of no value except as timber land; scrubby balsam, cedar and hemlock up to 18 inches, of little timber value.

NE. $\frac{1}{4}$ and L.S. 7, 8, 11, 14.—Rugged rocky bench land sloping steeply from 2,600 to 1,500 feet; of no value except as timber land; balsam, hemlock and cedar up to 30 inches; of fair timber value. Included in timber berth 518.

SEC. 33.—Rugged rocky bench land sloping from 2,500 to 800 feet; avalanche swept slopes, of no agricultural value; balsam, fir, cedar and hemlock of fair timber value at lower elevations. Timber berth 578.

SEC. 34, SW. $\frac{1}{4}$ and L.S. 1, 2, 7, 11, 12.—Rugged rocky bench land sloping from 2,400 to 500 feet; too steep and rocky to be of any value except as timber land; balsam, fir and cedar of good timber value. Included in timber berth 518.

SEC. 34, L.S. 8, 9.—Bench land from 500 to 800 feet above sea level along Statlu creek; 3 to 18 inches gravelly sand soil; 60 per cent fruit land; heavy undergrowth of devil's club in old windfalls; fir, cedar and hemlock up to 40 inches, of good timber value. Timber berth 518.

L.S. 10, 13, 14, 15, 16.—Bench land sloping from 1,050 feet to 550 feet; very rocky, forming sides of canyon of Statlu creek; of very little value except as timber land; fir, hemlock and cedar up to 36 inches, of very fair timber value. Included in timber berth 518.

SEC. 35, L.S. 1, 2, 3, 4.—Rocky bench land sloping from 1,400 to 1,700 feet; slope too steep and rocky to be of value except as timber land; scrub balsam and hemlock, few cedar of fair timber value. Timber berth 518.

L.S. 5, 6, 7, 8, 9, 10, 11, 12, 16.—Bench land from 450 to 800 feet along Statlu creek, 3 inches to 3 feet of gravelly sand loam soil, very rich in humus in some places

but containing stony patches on upper slopes; 70 per cent fruit land; fir, cedar and hemlock up to 48 inches, of very good timber value. Timber berth 518.

L.S. 13, 14, 15.—Very rocky bench land sloping from 900 to 1,500 feet; useless except as timber land; fir, hemlock and balsam up to 36 inches of good timber value. In timber berth 518.

SEC. 36, L.S. 1, 2, 3, 4.—Rocky bench land, steep slopes from 1,300 to 600 feet, no agricultural value; timber land, fir, cedar and hemlock up to 30 inches, of fair timber value. Timber berth 518.

NE. $\frac{1}{4}$, NW. $\frac{1}{4}$ and L.S. 5, 6, 7, 8.—Bench land sloping to Statlu creek, from 1,050 to 450 feet; rich alluvial soil along creek, consisting of gravelly loam; higher lands somewhat stony and cut up by ravines, of good agricultural value; from 75 per cent to 40 per cent fruit land; fir, cedar and hemlock up to 36 inches, of good timber value. In timber berth 518.

Tp. 5, R. 1, W. 7th Mer. *G. A. Bennett, D.L.S., 1910.*

This township contains the upper Chehalis River valley. In secs. 1, 2, 11, 12, 13 and 14 are bench lands well suited for fruit growing, and along the Statlu creek in secs. 5, 7, and 8 are benches of fair value for fruit growing, but the remainder of the township consists of rugged steep slopes to the mountain ridge running nearly north and south through centre of the township and reaching the altitude of 4,500 feet above sea level in sec. 21. The forest growth varies from the fine fir and cedar up to 48 inches in diameter along the Chehalis river to the scattered scrub on the uplands of the mountains, but generally the bench lands are covered with a luxuriant growth of merchantable timber, consisting of fir, cedar and hemlock.

SEC. 1.—Rolling bench land from 600 to 1,500 feet; Chehalis river flows through northeast $\frac{1}{4}$ in 500 feet canyon; sandy soil, badly cut up by ravines; very fair agricultural value; 40 to 60 per cent fruit land, varying with altitude; balsam and fir up to 36 inches, of good timber value. In timber berths 518 and 272 (2).

SEC. 2, L.S. 1, 8, 9, 16.—Rolling bench land from 1,500 to 2,000 feet; light sandy loam soil, rocky in places, of fair agricultural value, 25 per cent to 35 per cent fruit land; balsam and fir up to 36 inches, of fair timber value. In timber berth 518.

SW. $\frac{1}{4}$ AND L.S. 2, 7, 10, 11, 14, 15.—Rolling bench land from 1,900 to 2,600 feet; rocky, with very light sandy soil; of very poor agricultural value; balsam and fir up to 40 inches, of good timber value. In timber berth 518.

L.S. 12, 13.—Rocky upland ridge of mountain; from 2,200 to 2,900 feet, no agricultural value; scrubby fir and balsam, of little timber value. In timber berth 518.

SEC. 3.—Steep, rocky, sloping bench land from 800 to 2,550 feet, except L.S. 16 which is rocky upland from 2,440 to 3,000 feet; slopes too steep to be of agricultural value; hemlock, fir and cedar up to 30 inches, of fair timber value on lower slopes. In timber berth 518.

SEC. 4.—Bench land sloping very steeply to Statlu creek, from 2,500 to 840 feet; some benches along creek in legal subdivisions 11 and 12, of agricultural value; soil 3 to 18 inches gravelly sand loam; 25 per cent fruit land; creek in deep canyon through legal subdivisions 1 and 7; slopes too steep and rocky to be of agricultural value; fir, hemlock, and balsam up to 30 inches, of fair timber value. In timber berth 518.

SEC. 5.—Bench land with precipitous slope to Statlu creek, from 2,600 to 870 feet; only land of agricultural value is found in legal subdivisions 15 and 16 in alluvial benches along creek, with 3 inches to 18 inches gravelly loam; 30 per cent fruit land; seasons very late; heavy forest growth of value, hemlock, balsam, and fir up to 30 inches, of fair timber value. In timber berth 518.

SEC. 6, SE. $\frac{1}{4}$.—Rocky upland, very steep slopes from 2,400 to 3,500 feet, of no agricultural value; scrubby balsam and fir of little timber value. In timber berth 518.

SW. $\frac{1}{4}$, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Rugged steep bench land slopes from 2,600 to 1,100 feet; too rocky and steep to be of agricultural value; hemlock, cedar and balsam up to 18 inches, of little timber value. North $\frac{1}{2}$ in timber berth 518.

SEC. 7, LS. 1, 2, 3, 4, 6, 7, 10, 11, 14, 15.—Bench land with a very steep rocky slope to Cline creek, from 2,600 to 940 feet, no agricultural value; cedar and fir up to 30 inches, of fair timber value. In timber berth 518.

L.S. 8, 9, 16.—Bench land with some slopes of agricultural value, from 1,500 to 900 feet; soil from 6 to 18 inches red sand; 35 per cent fruit land; seasons very late; fir, cedar and hemlock up to 30 inches, of fair timber value. In timber berth 518.

L.S. 5, 12, 13.—Rocky upland slopes from 3,800 to 2,400 feet, no agricultural value; scrubby fir, hemlock and balsam, of little timber value. In timber berth 518.

SEC. 8.—Bench land sloping to Statlu creek with altitude from 2,000 to 850 feet; steep rocky slopes except benches along creek in legal subdivisions 2, 3, 5, 6 and 12, suitable for agriculture; soil from 3 to 18 inches red, sandy loam; 35 per cent fruit land on south slopes, 25 per cent fruit land on north slopes; seasons three weeks later than on lower valley; hemlock, fir and cedar up to 30 inches, of very fair timber value. In timber berth 518.

SEC. 9, W. $\frac{1}{2}$.—Rugged bench land with steep slope from 2,400 to 1,200 feet; too rocky and steep to be of agricultural value; hemlock, fir and cedar up to 30 inches, of fair timber value. In timber berth 518.

E. $\frac{1}{2}$.—Rocky precipitous upland, from 2,200 to 3,500 feet; no agricultural value; scrubby fir and jack pine, of little timber value. Northeast $\frac{1}{4}$ in timber berth 518.

SEC. 10.—Rocky upland slopes from 2,450 to 3,900 feet; some land in southeast $\frac{1}{4}$ with 12 inches gravelly sand possible to cultivate, but of very poor value, remainder of section of no agricultural value; cedar up to 30 inches of some timber value, hemlock, fir and balsam under 18 inches. Southeast $\frac{1}{4}$ in timber berth 518.

SEC. 11, E. $\frac{1}{2}$.—Bench land sloping to east from 2,400 to 1,000 feet; loose rock with little soil on upper slopes, but soil becomes better and composed of 18 inches of gravelly loam on lower slopes along eastern boundary; fair agricultural value; 40 per cent fruit land; fir and cedar up to 36 inches, of very fair timber value. In timber berths 518, 302 (1) and 272 (1).

SW. $\frac{1}{4}$.—High bench land sloping from 2,880 to 2,200 feet; steep and rocky to the west and cut by many ravines; of little agricultural value; soil in patches, white sandy loam over loose rock; fir and cedar up to 30 inches, of little timber value, hemlock and balsam under 18 inches, in thickets.

NW. $\frac{1}{4}$.—Rocky upland sloping from 3,600 to 2,200 feet, no agricultural value; scrubby balsam and fir, of little timber value.

SEC. 12.—Bench land sloping to Chehalis river, from 1,400 to 550 feet; rich soil of 6 to 18 inches sandy loam; of good agricultural value throughout; from 60 per cent on highland, to 80 per cent on low land, fruit lands; very heavy growth of fir and cedar up to 40 inches, of very good timber value. In timber berths 272 (1) and 272 (2).

SEC. 13, S. $\frac{1}{2}$.—Gently sloping bench land from 1,400 to 570 feet; rich soil from 6 to 18 inches sand loam, somewhat stony at higher elevations; good agricultural value; from 40 per cent to 75 per cent fruit lands; cedar and fir up to 48 inches, of very good timber value. In timber berth 302 (1).

N. $\frac{1}{2}$.—Rocky bench land sloping from 1,500 to 800 feet; no agricultural value except in legal subdivision 12 where there is bench with 2 inches red sand soil; 40 per cent fruit land; cedar and fir up to 40 inches, of very good timber value. In timber berth 302 (1).

SEC. 14, SE. $\frac{1}{4}$.—Bench land sloping from 1,200 to 600 feet, forming benches along Chehalis river; good agricultural value on lower levels; 50 per cent fruit land; heavy forest growth of fir, hemlock and cedar up to 36 inches, of very fair timber value. In timber berth 302 (1).

NE. $\frac{1}{4}$.—Bench land sloping from 1,500 to 600 feet; benches of fair agricultural value on left bank of creek; soil white gravelly sand from 12 inches to 6 feet; 35 per cent fruit land; on right bank the land rises rocky and steep and is of no agricultural value; hemlock, fir, balsam and cedar of fair timber value. In timber berth 302 (1).

W. $\frac{1}{2}$.—Steep mountainous country sloping from 3,260 to 2,000 feet; legal subdivisions 6 and 11 are bench land, while remainder is upland; too steep and rocky to be of agricultural value; dense thickets of hemlock up to 16 inches of poor timber value. Partly included in timber berth 302 (1).

SECS. 15, 16.—Rocky upland slopes from 4,300 to 2,500 feet; no agricultural value; scrubby fir and balsam of no timber value.

SECS. 17, 18.—Rocky bench land sloping to May and Statlu creeks; from 2,600 to 900 feet above sea level; high rocky cliffs and bare rocky slopes in places, no agricultural value; fir and hemlock up to 36 inches on lower slopes. In timber berth 518.

SEC. 19, E. $\frac{1}{2}$.—Very steep sloping bench land from 2,600 to 1,100 feet; no agricultural value; scrubby fir and hemlock up to 30 inches, of little timber value. Southeast $\frac{1}{4}$ included in timber berth 518.

W. $\frac{1}{2}$.—Very steep rocky upland slopes from 3,500 to 2,200 feet, no agricultural value; scrubby fir and hemlock, of little timber value.

SEC. 20.—Steep rocky bench land sloping from 2,600 to 1,300 feet; too precipitous to be of agricultural value; scrubby fir, hemlock and balsam, of little timber value.

SECS. 21, 22.—Upland slopes from 4,500 to 2,400 feet; very rocky and mountainous; scattered scrubby balsam and jack pine, with poor grazing.

SECS. 23, 24.—Bench land sloping from 2,600 feet to 600 feet down to Chehalis lake and river; too precipitous and rocky to be of agricultural value except some 60 acres at foot of lake on left bank of river in sec. 23; soil 18 inches gravelly loam; 60 per cent fruit land; scrubby fir and hemlock on higher elevations, some fir and cedar up to 40 inches along river. In timber berth 302 (1).

SEC. 25, E. $\frac{1}{2}$.—Upland sloping from 3,450 feet to 2,500 feet; very rocky and precipitous, forming top of mountain ridge, of no agricultural value; scrubby fir up to 18 inches, of no timber value.

W. $\frac{1}{2}$.—Bench land, consisting of rocky precipitous slopes, from 2,500 feet to 600 feet, no agricultural value; scattered scrubby fir and hemlock, of no timber value.

SEC. 26.—Bench land around Chehalis lake, from 1,400 feet to 600 feet rocky and precipitous, no agricultural value; few cedar on west shore up to 24 inches, of poor timber value. In timber berth 519.

SEC. 27, E. $\frac{1}{2}$.—Bench land sloping from 2,600 feet to 1,000 feet; rocky and useless for agriculture; scrubby cedar of poor timber value in hemlock and fir scrub. In timber berth 519.

SEC. 27, W. $\frac{1}{2}$; SEC. 28; SEC. 29, E. $\frac{1}{2}$.—Rocky precipitous upland from 4,100 feet to 2,400 feet, no agricultural value; some fir, balsam, and cedar in ravines, of fair timber value, on ridges scrubby balsam and jack pine, with patches of poor grazing. Partly included in timber berth 519.

SEC. 29, W. $\frac{1}{2}$; SEC. 30, E. $\frac{1}{2}$; SEC. 31; SEC. 32, W. $\frac{1}{2}$.—Bench land sloping to May creek, from 2,600 feet to 1,400 feet; rocky and precipitous slopes of no agricultural value; some veins of lignite coal; scrubby hemlock and balsam on avalanche swept slopes, of little timber value.

SEC. 30, W. $\frac{1}{2}$; SEC. 32, E. $\frac{1}{2}$; SEC. 33; SEC. 34, W. $\frac{1}{2}$.—Rugged upland sloping from 4,400 to 2,400 feet; rocky and useless for agriculture; scattered scrubby balsam and jack pine, with poor grazing in sec. 33.

SEC. 34, E. $\frac{1}{2}$; SECS. 35, 36.—Rocky bench land and sloping from 2,800 feet to 600 feet; too rocky and steep to be of use as fruit lands; scrubby cedar, hemlock and fir, of little timber value. Partly included in timber berth 519.

Tp. 6, R. 1, W. 7th Mer. *G. A. Bennett, D.L.S., 1910.*

This township is exceedingly rugged and mountainous. The Alma Mountains in the northwestern sections attain an altitude of 7,000 feet with extensive snow fields, while precipitous, rocky ridges extend south and east throughout the township. The only land fit for agriculture or fruit growing is found in the Eagle Creek valley in secs. 24 and 25, and here the value is doubtful because of the late short season caused by its altitude and the proximity of snow capped peaks.

The forest growth is scrubby and consists of fir, cedar, hemlock, and jack pine of little value except in the Eagle Creek valley, where some very fine fir up to 6 feet in diameter are found.

On the upper slopes poor grazing is found among scattered jack pine.

SECS. 1, 2.—Steep, rocky, sloping bench land to Chehalis lake, from 2,000 to 600 feet; no agricultural value except 20 acres alluvial soil in L.S. 12 sec. 1 at mouth of Skwellepil creek; 35 per cent fruit land; cedar, fir and hemlock up to 24 inches in diameter, of fair timber value. In timber berths 519 (1) and (2), and in 521 (5).

SEC. 3, SE. $\frac{1}{4}$.—Very steep, rocky, sloping bench land from 2,800 to 1,200 feet above sea level; cut by deep ravines, of no agricultural value; scrubby fir, cedar and hemlock up to 24 inches, of fair timber value. In timber berth 519.

SEC. 3, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SECS. 4, 5, 6, 7, 8, 9, 10.—Upland slopes from 5,000 to 2,400 feet above sea level; rocky and precipitous at lower elevations, with gentler slope at higher elevations; no agricultural value; scrubby fir, balsam, and jack pine, scattered at higher elevations, with fair grazing, no timber of value except few fir and cedar in northeast $\frac{1}{4}$ of sec. 10 included in timber berth 519.

SECS. 11, 12, 13.—Very steep, rocky slope to Skwellepil creek and Chehalis lake; bench land sloping from 2,600 to 600 feet; no value except as timber land, cedar, fir, and hemlock up to 24 inches of fair timber value. In timber berths 519 and 520.

SECS. 14, 15, 16, 17, 18, 19, 20, 21, 22, 23; SEC. 27, S. $\frac{1}{2}$; SECS. 28, 29, 30.—Very mountainous, rocky upland, from 7,000 to 2,400 feet above sea; great snow fields and bare rocky ridges with scrubby balsam, jack pine and fir below 5,000 feet; no land of agricultural value; greater part of secs. 18, 19, 20, 29 and 30 is worthless land; no timber of value; poor grazing on avalanche swept slopes.

SEC. 24.—Bench land with rocky, steep slope from 2,500 to 1,000 feet; only land suitable for agriculture is in L.S. 16 in benches along Eagle creek; soil from 6 to 18 inches gravelly loam; 30 to 40 per cent fruit land; cedar up to 60 inches of very good timber value. In timber berth 302.

SEC. 25, 26; SEC. 27, N. $\frac{1}{2}$; SEC. 36.—Steep, rugged bench land slopes from 2,700 to 1,075 feet; too steep and rocky to be of agricultural value except legal subdivisions, 1, 8, 9 and 16 in section 25, where there are benches of gravelly loam soil up to 18 inches in depth, but north of L.S. 8 snow is met with in valley rendering weather cold and seasons too late for fruit growing; in L.S. 1 and L.S. 8, 35 per cent fruit land; the timber below 2,000 feet is very good, consisting of fir and cedar up to 60 inches in diameter, at higher elevations timber consists of balsam, hemlock and fir up to 36 inches, of fair timber value. In timber berth 520.

SEC. 35.—Steep, rocky upland, sloping from 2,200 to 3,500 feet; poor timber land; balsam, fir and hemlock up to 30 inches, of fair timber value. In timber berth 520.

Tp. 3, R. 2, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Fractional township due to differences in the 4th and 5th systems of survey. Fractional sections 31, 32, 33, 34, 35 and 36 compose the township. Sections 31, 32 and 33 are disposed of. The remaining sections lie on a range of mountains reaching from 400 to 3,000 feet and upwards above sea level. A narrow valley with steep

rocky and well timbered slopes runs across section 36, and this section with part of section 35 is included in T.B. 505 (1). No land of agricultural value except on west end of section 34 where there are a few acres of land on fair gentle slopes suitable for fruit. Timber is generally of scrubby nature and not of much timber value except in valley lying in section 36.

Tp. 4, R. 2, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

The greater part of this township is covered by high rocky range of mountains rising to a height of over 4,000 feet above sea level, the summit of which lies in secs. 2, 11, 14, 22, 27 and 35, with very steep, rough slopes falling to west. Snow patches are numerous along top of range. Secs. 30 and 31 are covered by a small, rocky mountain reaching 2,750 feet in height, the slopes on the west falling towards Stave lake, towards Cypress creek on the north, towards Lost Creek valley on the east and south. Lost creek valley through secs. 29 and 20 is very narrow, with steep, rocky slopes particularly those to the east rising to the mountain. There is very little land considered of agricultural value, the township being nearly all covered by these mountains. Lands considered of value are described in schedule of township below. The timber consists mainly of cedar, fir and hemlock with balsam on the higher parts. Maple and alder brush. On lower slopes and in valleys the timber is of considerable value and the better part is practically all taken by timber berths. On higher parts the timber becomes more scattered and scrubby, and is not of much value for that reason and on account of locality. Generally above 3,000 feet the timber is very scrubby and scattered.

SEC. 4, NE. $\frac{1}{4}$, LS. 1, L.S. 2 E. $\frac{1}{2}$, L.S. 7 E. $\frac{1}{2}$, L.S. 8.—Generally steep, rocky slopes rising to east, broken by deep narrow valley of McConnell creek; some workable land adjoining the taken land; from 360 to 1,385 feet above sea level; soil, sandy clay boulders, humus; timber, fir, cedar and hemlock up to 24 inches, some large dry cedar, of some timber value; fair value as fruit land.

SEC. 7, NE. $\frac{1}{4}$.—On slope of high rock hill; from 415 to 1,500 feet above sea level; no land of agricultural value; some scattered fir and hemlock up to 24 inches diameter, not of much timber value.

NW. $\frac{1}{4}$.—Considerable low flat bench land on west and south of quarter, good agricultural land; rocky slopes rising to northeast in northeast part of quarter from 310 to 700 feet above sea level; clay loam; timber, covered with fir and hemlock to 24 inches, old brulé, some large dry cedar, of some timber value; good value as fruit land.

SEC. 8, NE. $\frac{1}{4}$, L.S. 7, 8.—Bench land, a considerable part good agricultural land; rough, rocky slope in northeast part, from 500 to 1,150 feet above sea level; clay loam, humus; fir, cedar and hemlock up to 30 inches diameter, dry cedar to 6 feet, maple and alder brush, of some timber value; good value as fruit land.

NW. $\frac{1}{4}$.—On rocky slope rising to northwest from 770 to 1,500 feet above sea level; a very few acres flat bench land in northeast part adjoining creek; sandy clay soil; scattered hemlock and fir on rock slope, fir, cedar and hemlock on flat, of some timber value; flat land, good value as fruit land.

SEC. 9, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Flat bench land in legal subdivisions 4, 5 and 12; remainder on steep, rocky slopes rising to northeast from 425 to 2,000 feet above sea level; sandy clay soil; fir, cedar and hemlock to 36 inches diameter, some large dry cedar to 6 feet diameter, of some timber value; flat land, good value as fruit land.

SEC. 17, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Davis lake lies partially in each quarter; some flat bench land adjoining southeast of lake; steep slopes rise from west shore to high rocky hill and from north and east to range of mountains from 525 to 2,050 feet above sea level; sandy loam and humus on flat land; scattered fir, hemlock and some cedar on slopes, well covered on flat land, of some timber value; flat land, good value as fruit land.

SEC. 18, NE. $\frac{1}{4}$.—Some flat bench land near Lost Creek in north part of quarter; towards east the valley becomes narrow, with rocky slopes to each side; southeast part

of quarter on steep rock slopes rising to rock hill; from 320 to 1,000 feet above sea level; sandy loam soil, humus; cedar, fir, hemlock up to 20 inches diameter, not of much timber value; good value as fruit land.

NW. $\frac{1}{4}$.—Flat bench land for greater part, rocky slopes in southeast corner, from 260 to 450 feet above sea level, sandy loam soil, vegetable mould; cedar, fir and hemlock up to 3 feet diameter, some large dry cedar, of fair timber value, maple and alder brush; good value as fruit land. Part in timber berth 33 (1).

SW. $\frac{1}{4}$.—Flat bench land for about half of quarter on north and west; remainder on rock slopes rising to east to high rock hill; from 260 to 700 feet above sea level; sandy clay soil; humus; cedar, fir and hemlock; some good timber to 4 feet diameter; good fruit land value on flat land.

SEC. 19, NW. $\frac{1}{4}$.—Low flat bench land and land on gentle slopes; slopes to north and east steep and rocky; from 300 to 1,200 feet above sea level; sandy clay soil, stony on slopes; hemlock to 20 inches diameter, some fir and cedar up to 24 inches, of some timber value; good value as fruit land.

SE. $\frac{1}{4}$.—Small area of flat bench land on southwest quarter in vicinity of Lost creek; rock slopes rising to north on rest of quarter; from 320 to 800 feet above sea level; sandy clay soil; humus; hemlock and some fir and cedar up to 4 feet diameter, of fair timber value; good value in part as fruit land. Partially in timber berth 33 (1).

SW. $\frac{1}{4}$.—Flat bench land; some swampy land near Lost Creek; all land suited for cultivation; from 265 to 600 feet above sea level; sandy clay loam; well covered with fir, cedar and hemlock to 4 feet diameter, of good timber value; good value as fruit land. Partially included in timber berth 33 (1).

SEC. 32, NE. $\frac{1}{4}$; SEC. 33, NW. $\frac{1}{4}$.—Rolling bench land with steep slopes to south and east; from 1,400 to 2,000 feet above sea level; considerable part of northwest quarter of section 33 and small area to northeast part of northeast quarter of section 32 considered of possible value for agriculture; sandy soil, gravel, rock not far from surface; well covered with fir, hemlock and cedar up to 24 inches, average 15 inches, of some timber value; fair value as farm land. Included in timber berth 309 (1).

Tp. 5, R. 2 W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Nearly all of this township is high mountainous country, rough and broken hills attaining the height of 4,000 feet and over through a considerable part of the township. In sec. 14 a mountain rises to a height of 4,600 feet above sea level. This mountain range runs in a northerly direction through the township leaving the higher parts in secs. 2, 11, 14, 22, 27 and 34, with another range running south easterly through secs. 34 and 35. Another smaller mountain reaching to a height of 3,750 feet runs through secs. 19, 20, 29 and 28.

This leaves very little land suitable for cultivation; a few acres lie at the mouth of Cypress lake in sec. 7, and a considerable acreage lies in the vicinity of Cypress lake in secs. 4, 5, 8, 9 and 17. In secs. 31, 32 and 33 there is considerable flat land in the vicinity of Upper Stave river. The slopes through the township are generally steep and always rocky.

The timber consists generally of cedar, fir and hemlock with balsam on higher parts. In the valleys there is considerable timber of value. On the mountains the timber is scattered and of a scrubby nature, and not of much value.

SEC. 4; SEC. 5, SE. $\frac{1}{4}$; NE. $\frac{1}{4}$.—Cypress lake lies towards the middle of west side of sec. 4 and is surrounded by rolling bench land from 1,340 feet above sea level and upwards; considerable part suitable for cultivation, but not considered of value for fruit, due to proximity to snow clad mountains which lie to the east; sandy loam soil, gravel, with rock not far from surface in most places; well covered with fir, cedar and hemlock up to 30 inches diameter, of fair timber value; this bench land covers all of the west half of section 4 and partially the legal subdivisions 2, 7, 10 and 15 in section 4 and nearly all the east half of section 5.

SEC. 5, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$; SEC. 6.—Rough, rocky bench land rising on steep slopes in southerly direction towards mountain from 300 to 2,500 feet and over above sea level; of no agricultural value; timber, cedar, fir and hemlock, generally small up to 24 inches diameter, good timber in north part up to 40 inches diameter, of considerable timber value. North half of sec. 6 in timber berth 309 (2).

SEC. 7, NE. $\frac{1}{4}$; NW. $\frac{1}{4}$, (FRAC.).—Rough, rocky bench land rising on very steep slopes in a northeasterly direction from Stave lake and the Cypress Creek valley; no land of agricultural value; timber generally scattered and scrubby, some fair timber to south and west, cedar, fir and hemlock up to 30 inches diameter.

SE. $\frac{1}{4}$.—Narrow valley of Cypress creek, with steep slopes rising to north and south; from 325 to 1,000 feet and upwards above sea level; 150 feet falls on creek in northeast part of quarter; no land considered of agricultural value; well covered with cedar, fir and hemlock up to 30 inches, of considerable timber value. Included in timber berth 309 (2).

SW. $\frac{1}{4}$.—A few acres of rolling bench land in southwest part near Cypress creek; remainder of quarter on steep, rocky slopes; from 250 to 1,000 feet above sea level; land near creek of fair value as fruit land; sandy loam soil, very stony; cedar, fir and hemlock up to 30 inches, of considerable timber value. Included in timber berth 309 (2).

SEC. 8, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Rough, hilly bench land and steep slopes, from 500 to 1,200 feet and upwards above sea level; broken by deep valleys of Cypress creek and branch; very steep, rocky slopes to northwest of creek; a few acres of level rolling bench land lying to east part between the creek valleys at an elevation of 1,200 feet, partially suitable for cultivation; sandy loam soil, stony, rock not far from surface; well covered with timber up to 30 inches diameter. Included in timber berth 309.

SEC. 8, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$; SEC. 9, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Rolling bench land, similar to that in secs. 4 and 5 around Cypress lake, covers all of east half of sec. 8, a good part of northwest quarter and the greater part of southwest quarter of sec. 9; steep slopes to east of this land rising to high mountains, from 1,200 feet upwards above sea level. Included in timber berth 309.

SEC. 17, SE. $\frac{1}{4}$.—Rolling bench land to southeast of creek running through quarter; steep, rocky slopes to northwest of creek, and rough and hilly to north and east of quarter section; land similar to that in vicinity of Cypress lake, of doubtful agricultural value. Included in timber berth 309.

SEC. 18, (FRAC.); SEC. 19, (FRAC.); SEC. 30, (FRAC.).—Very steep, rocky slopes rising from shore of Stave lake to a height of 3,750 feet above sea level; no agricultural land; lower slopes in secs. 19 and 30 fairly well covered with cedar and fir up to 30 inches diameter, of fair timber value. Part included in timber berth 361.

SEC. 31, NE. $\frac{1}{4}$ (FRAC.), NW. $\frac{1}{4}$ (FRAC.).—Flat land lying at mouth of Upper Stave and Clearwater creek; alluvial soil and sandy soil; well covered with timber, cedar, hemlock, spruce, and some fir and alder up to 3 feet diameter, generally small, of some timber value; good value as fruit land; part to east of river included in timber berth 361.

SEC. 32.—All of northwest quarter and the greater part of northeast quarter, also a few acres in southwest quarter, flat land; remainder of section on steep slopes rising to southeast to mountain; flat land good agricultural land; alluvial soil, sandy; cedar, hemlock, spruce and some fir and alder up to 3 feet diameter, of some timber value; good value as fruit land. Part in timber berths 361 and 506.

SEC. 33, NW. $\frac{1}{4}$.—A few acres of good flat land in northwest corner; remainder in steep slopes rising to mountains; alluvial soil and sandy loam; cedar, fir and hemlock timber up to 3 feet diameter, fair timber value; good value as fruit land on flat land.

Tp. 6, R. 2, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Stave river runs through secs. 17, 8, 4 and 5 of this township. There is considerable flat land and rolling bench land in valley, running back to foot of steep mountain slopes. The slopes on the east rise to mountain, with an estimated height of 7,000 feet above sea level. Those to the west which rise directly from bank of river in secs. 8 and 17 run back to bare rock mountain, which attains a height of 5,500 feet above sea level. To the north part of sec. 17 and lying between the east branch of Stave river, steep rock slopes rise to a mountain, reaching to a height of 4,450 feet.

This valley is well covered with timber, and the slopes to the east are covered with a good growth. The slopes to the west have been burnt over and are practically bare rock; a few standing dry trees and much windfall. Those to the north in section are very rocky and the timber is very scattered.

The lands considered of value are taken in detail below.

SEC. 4, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Stave river runs through half section near west boundary; considerable flat land along river, all flat to west; slopes run close to river on east side, in one place from 270 to 700 feet and upwards above sea level; more than half suitable for cultivation; sandy loam soil, humus; well covered with timber, cedar and hemlock with a few fir up to 36 inches diameter, average 20 inches, fair timber value, slopes well timbered; good value as fruit land. Included partially in timber berth 506.

SEC. 5.—All flat bench land except for small area in northwest corner on steep rock slope from 260 to 400 feet above sea level; alluvial soil, sandy; part swampy land; Stave river runs through south half; cedar and hemlock, some spruce and fir up to 24 inches, of some timber value; good value as fruit land. East half in timber berth 506; part of west half in timber berths 146 and 361.

SEC. 6, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Greater part flat bench land along Stave River valley; Clearwater creek runs through southwest quarter; southeast corner of northeast quarter, nearly all southeast quarter and about half of southwest, flat land, remainder on steep bare rock slopes rising to high mountain; alluvial soil, sandy; part swampy; cedar and hemlock timber, some spruce to 24 inches diameter, of some timber value; good value as fruit land. Partially in timber berth 146.

SEC. 8, EAST OF STAVE RIVER.—All flat land, slightly rolling to northeast, from 280 to 360 feet above sea level; soil alluvial in part, sandy loam, some gravel to east; well covered with cedar and hemlock, some fir to east, part brulé in northwest part, of good timber value, good value as fruit land. In timber berth 506.

WEST OF STAVE RIVER.—All of northwest quarter and greater part of southwest quarter of rough, bare rock slopes rising to west to mountains; some flat land in southeast corner of the southwest quarter and the greater part of the southeast quarter flat land; from 280 to 750 feet and upwards above sea level; alluvial soil, partly swampy; covered with cedar, hemlock, some spruce and fir up to 24 inches diameter, of some timber value, brulé on rock slopes, no timber of value; southeast quarter included in timber berth 506. Good value as fruit land.

SEC. 9, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—A few acres more than half of these quarters along the west is flat and rolling bench land, some on gentle slopes rising to east; along the east boundary steep slopes rising to high mountains from 270 to 500 feet above sea and upwards; sandy loam soil, gravel; fairly well covered with timber, cedar, hemlock, some fir and spruce up to 6 feet diameter, average 20 inches, good timber value; good value as fruit land. In timber berth 506.

SEC. 16, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—The east branch of Stave River valley with a strip of flat land on each side running back to foot of steep slopes, small area in northeast quarter and a good part of the northwest quarter, sandy soil, gravel; well timbered with cedar and hemlock up to 6 feet diameter, average 20 inches of timber value, some brulé; fair value as fruit land. Partially included in timber berth 506.

SEC. 17, NW. $\frac{1}{4}$.—Small area flat land in southwest corner near Stave river; rest of quarter on steep bare rock slopes; from 340 feet and upwards above sea level; sandy soil and gravel; fairly well timbered on flat land; some value as fruit land.

S. ... $\frac{1}{4}$, SW. $\frac{1}{4}$.—Greater part of half section flat bench land; steep, rocky slopes along north boundary and also to the west of Stave river rising directly from river bank; from 325 feet and upwards above sea level; sandy soil; gravel; well timbered with cedar, hemlock and some spruce, part brulé, large standing dry trees, of fair timber value; good value as fruit land. In timber berth 506.

Tp. 3, R. 3, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Narrow strip of land six miles long and about twelve chains wide due to differences in the 4th and 5th systems in survey make this township. Stave river passes through township near west boundary of sec. 34. To the east of Stave river the slopes of a small mountain rise directly from bank, reaching a summit in sec. 35 and falling to east towards Hatzic prairie in rocky hilly slope. No land lying to the east of Stave river considered of agricultural value. This portion is fairly well covered with timber consisting of cedar, fir, hemlock, maple and alder brush of 15 inches average size. To the west of Stave river a few acres of flat land lie in north-east quarter of sec. 33. A rocky hill to the west of this flat land and steep mountain slopes rising from a narrow valley in west part of sec. 33 to a height of 2,500 feet above sea level and upwards. The part to the west of Stave river is well-timbered with cedar, fir, hemlock and brush, slopes to the west part being well covered with timber.

SEC. 33, NE. $\frac{1}{4}$.—Area of flat land to west of Stave river running back to foot of rocky hill near west boundary of quarter, from 240 to 585 feet above sea level; rich sandy loam soil; cedar, fir and hemlock timber up to 60 inches diameter, best cedar logged off; good value as fruit land. Included in timber berth 106.

Tp. 4, R. 3, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Stave lake and Stave river lying along east side of township and Lillooet lake running across the northeast corner with a high mountain lying between, the highest point of which lies in sec. 21 reaching to 4,100 feet above sea level. This mountain covers the greater part of the township between the two lakes, secs. 5, 6, 7 and 8, greater part of 16, secs. 17, 18, 19, 20, 21, 27, 28, 29 and 30 are all covered by this mountain, and the slopes of the mountain, with the higher parts lying in secs. 19, 20 and 21, leaving no land of agricultural value. To the east of Stave river and along east of Stave lake there is considerable good flat land running into rock hills and slopes to the south part of township. Along the west of Stave river there is a fair amount of flat land running back to the foot of steep slopes. The lower mountain slopes and flat lands are well timbered with cedar, fir and hemlock. On the higher slopes the timber becomes scattered and scrubby.

SEC. 1, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$; SEC. 2, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$; SW. $\frac{1}{4}$; SEC. 3, SE. $\frac{1}{4}$.—Rough, rocky hills rising in a southerly direction, from 535 to 2,000 feet above sea level; no land considered of agricultural value; timber consists generally of small fir, cedar and hemlock, maple and alder brush averaging 10 inches diameter, not of much timber value, better on the west slopes to Stave river. Southwest $\frac{1}{4}$ sec. 3 in timber berth 268.

SEC. 2, NW. $\frac{1}{4}$.—Steep, rocky slopes rising to southwest, from 335 to 1,510 feet above sea level; small strip of land along north and suitable for cultivation; soil, sandy clay, gravel; hemlock from 6 to 20 inches, some cedar and fir, maple and alder brush, of some timber value; fair value as fruit land.

SEC. 3, NE. $\frac{1}{4}$; NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Narrow strip of flat land along north and north-east quarter and along east of Stave river; steep slopes rise to the east from river bank in south part; from 240 feet and upwards; all flat land to west of Stave river; so, li

rich sandy clay loam; well timbered with cedar and hemlock and some fir up to 6 feet, partially logged, of timber value; good value as fruit land, particularly to west of river. In timber berth 268.

SEC. 4, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$.—Narrow strip of flat bench land along east side; rest of quarter covered by rock hill from 240 to 900 feet above sea level; good agricultural land on flat part; rich, sandy, clay loam, humus; well timbered with cedar and hemlock, and some fir up to 4 feet diameter, small on rock hill, of some timber value; good value as fruit land on flat part. In timber berth 268.

NW. $\frac{1}{4}$.—Steep, rocky slopes rising to east and west from small lake which lies partly in northwest $\frac{1}{4}$; small area of rolling bench land to north of lake, of good agricultural value, from 280 to 900 feet above sea level; sandy loam soil, some gravel; heavily timbered with fir, cedar and hemlock up to 60 inches diameter, of good timber value; fair value in part as fruit land. Included in timber berth 106.

SEC. 9, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$.—Flat bench land covering a good part of each quarter; rocky hill lying at centre of section; from 255 to 680 feet above sea level; soil, sandy clay loam, some gravel; heavily timbered with cedar, fir and hemlock up to 60 inches, good part of timber cut; good value as fruit land. Partly in timber berths 33 and 106.

NW. $\frac{1}{4}$; SW. $\frac{1}{4}$.—Rocky hill in centre part of section running from the north, steep mountain slopes on west; part with small area of rolling bench land suitable for cultivation lying between; from 340 to 780 feet and upwards above sea level; sandy clay loam, some gravel; well timbered with fir, cedar and hemlock up to 60 inches, of good timber value. Partly included in timber berths 106 and 33.

SEC. 10.—All flat land except for small part on steep slopes in northwest corner; from 245 to 500 feet above sea level; all good agricultural land; sandy loam soil; well timbered with cedar and hemlock to 4 feet diameter, and some large cedar in places up to 72 inches diameter, good timber value; good value as fruit land. Part east of river in timber berth 216; small strip to north in timber berth 33.

SEC. 11, SE. $\frac{1}{4}$; SEC. 12, SW. $\frac{1}{4}$.—About half of each quarter on north flat bench land; remainder rough, rocky hills from 335 to 670 feet above sea level; soil, sandy clay loam and gravel; well covered with cedar, hemlock and some fir up to 24 inches, generally small, some large dry cedar, of some timber value; fair value as fruit land.

SEC. 11, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 12, NW. $\frac{1}{4}$; SEC. 13, 14, SOUTH OF STAVE RIVER; SEC. 15, EAST OF STAVE RIVER; SEC. 24, (FRAC.).—Low level bench land, slightly rolling, a few small rock knolls, all good agricultural land; from 245 to 535 feet above sea level; soil, some gravel in places; well timbered with cedar and hemlock, some fir, maple and alder brush up to 30 inches diameter, logged to some extent; included partly in timber berths 216, 33 and 185. Good value as fruit land.

SEC. 15, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Narrow strip of flat land along east and south, very narrow at centre, widening to north and south; steep rocky slopes to west from 245 to 775 feet above sea level; sandy clay soil; well timbered on flat land and slopes with cedar, hemlock, and fir up to 4 feet diameter, good timber value; fair value as fruit land. Included in timber berth 33.

SW. $\frac{1}{4}$.—Very small area of flat land to southeast part of quarter; remainder on steep rocky mountain slope rising to northwest; from 260 to 810 feet and upwards above sea level; sandy clay soil, some stones; well timbered slopes. Included in timber berth 33.

NW. $\frac{1}{4}$.—On steep mountain slope from 325 to 1,000 feet and upwards above sea level; no agricultural land; well timbered slopes. In timber berth 33.

SEC. 16, SE. $\frac{1}{4}$.—Greater part of quarter on steep mountain slopes, of no agricultural value; from 460 to 680 feet and upwards above sea level; a small area of workable land to south of quarter along valley of small creek, of fair value as fruit land; sandy clay soil; well timbered slopes, cedar, fir and hemlock to 4 feet diameter. Included in timber berth 33.

SEC. 22, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Small lake lying partly in northeast and northwest quarters, with steep slopes rising to north, east and west; no land considered of agricultural value; from 775 to 970 feet and upwards above sea level; well timbered with cedar, hemlock and some fir, maple and alder brush, up to 7 feet diameter in places, good timber value. In timber berth 33.

SE. $\frac{1}{4}$.—Small area of rolling land to southeast part of agricultural value; remainder on rough steep slopes rising to east and west from creek through quarter, from 265 to 945 feet; covered with cedar, fir and hemlock in places up to 7 feet diameter; average 3 feet, some cedar logged, good timber value; of some value as fruit land; sandy loam soil, humus. Included in timber berth 33.

SEC. 23 (FRAC.).—Covered by rocky hill from 250 to 1,330 feet above sea level; no land of value; well timbered with cedar, fir and hemlock up to 4 feet diameter, good timber value. Included in timber berth 33.

SEC. 25 (FRAC.).—Rolling bench land and flat land to south and west parts, of agricultural value; to north and east steep slopes rising to mountain from 250 to 1,500 feet above sea level; sandy soil, gravel; fairly well covered with cedar and hemlock, and some fir up to thirty inches diameter, of fair timber value; land of good value as fruit land. Included in timber berth 185.

SEC. 26 (FRAC.).—Steep slopes rising to west from lake shore; from 2,500 to 1,000 feet above sea level; no land considered of agricultural value; slopes well timbered with cedar, fir and hemlock. Included in timber berths 150 and 346.

SEC. 30.—Steep rocky slopes rising from Lillooet lake to mountain from 495 to 2,500 feet and over above sea level; no agricultural land; fairly well timbered slopes. Partially included in timber berth 533.

SEC. 31, FRAC. TO WEST OF LILLOOET LAKE.—Small area of land in gentle slopes along shore of lake; very steep, rough, rocky slopes to north rising to mountains over 4,000 feet above sea level; sandy soil, very rocky; well covered with timber on lower slopes, cedar, fir and hemlock up to 6 feet; part of poor value as fruit land. Included in timber berth Z.

SEC. 31, FRAC. EAST OF LILLOOET LAKE.—Rolling bench land, rocky in places, partially suitable for cultivation; from 495 to 940 feet above sea; sandy soil; thinly covered with fir, hemlock and cedar up to 30 inches, of fair value as fruit land. In timber berth 33.

SEC. 32, FRAC. TO EAST OF LILLOOET LAKE.—Rolling bench land and gentle slopes, hilly in part, some rock showing in places; from steep rocky slopes to southeast part from 495 to 1,000 feet and upwards above sea; greater part considered of value as fruit land; sandy soil, stony; fairly well covered with cedar, fir and hemlock up to 36 inches, average 20 inches of some timber value; poor value as fruit land. Included in timber berth Y.

SEC. 33.—Rolling bench land over about half of section to the north, steep rocky slopes to the south rising to mountains; from 720 to 1,500 feet and upwards above sea level; partially suitable for cultivation; sandy soil, stony; thinly covered with fir, cedar and hemlock up to 36 inches, average 20 inches, of some timber value; poor value as fruit land. Partially included in timber berth Y.

SEC. 34, NW. $\frac{1}{4}$.—Small area rolling bench land in northwest part; rough rocky slopes rising to the south from 940 feet and upwards above sea level; partially suitable for cultivation; sandy soil, humus, stony; thinly covered with fir, cedar and hemlock to 36 inches, average 24 inches, fair timber value; poor value as fruit land.

SEC. 34, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 35, FRAC. WEST OF STAVE LAKE.—Steep slopes rising from Stave lake to rough rocky bench land, from 250 to 1,500 feet and upwards above sea level; no land considered of agricultural value; fairly well covered with timber of good size. Partially included in timber berth 346.

SEC. 36, FRAC. EAST OF STAVE LAKE.—Rough rock slopes rising to east from shore of lake; no land of value; timber scattered for most part, some fir, cedar and hemlock to 24 inches of some timber value in places. Partially in timber berths 309 and 185.

A. *Lighthall, D.L.S., 1910.*—This district can be reached by wagon from Mission City, running northeasterly through Hatzic Prairie and as far north as Stave lake. Along the creeks and in some places for a considerable distance on either side, the land is flat and formed by an alluvial deposit which apparently would make very good land for farming or fruit growing but, unfortunately, the raising of the lake-level by the Stave River Power company will flood all this land. There is a limited quantity of land low enough to be suitable for farming yet high enough to escape being flooded. It is a sandy loam and, judging from the gardens of some settlers, is not of very good quality. The rest of the country is high, rocky and unsuitable to agriculture. The land is all heavily timbered, but most of the large timber has been taken off, only second-growth remaining. Along the northern boundary of section 2 there is a strip of good timber consisting of fir up to 4 feet and cedar up to 6 feet in diameter, but it is not in sufficient quantity to make profitable logging. There is no hay in this district. Fresh water is abundant in the portion surveyed. Two large creeks cross the southeastern corner of the township. They are Cardinal creek and McConnell or Cascade creek. There are also numerous small streamlets. The two creeks named average a chain to a chain and a half in width. The currents are sluggish, as the land is flat, but the banks are high enough to prevent flooding of the land. When the level of the lake is raised, however, both creeks will overflow. There are no water-powers to be developed on these streams. The climate appears to be very mild. There is snow in winter, but no intense cold. The first frost occurred about the end of August in 1910. Wood for fuel is very plentiful, but no coal nor lignite exists. There are no stone-quarries and the rock is a hard granite, unsuitable for building use. No minerals of value were found. Bears, deer and beavers are fairly numerous, especially beavers, as their work is seen on any stream of sufficient size.

Tp. 5, R. 3, W. 7th Mer. A. J. *Campbell, D.L.S., 1910.*

Snowy mountain reaching to a height of 6,960 feet above sea level and having its summit in sec. 33 covers the northern part of this township. Steep slopes to the east falling to Stave lake and steep slopes to the west falling to Gold creek, which runs across sec. 31 of township. A range of mountains reaching over 4,000 feet runs in a southerly direction from Snowy mountain, with the higher parts in secs. 29, 20, 17 and 8, and covers the west part of township. Between the Lillooet and Stave lakes lies a range of hills reaching to a height of 2,020 feet and generally above 1,500 feet in height. This leaves very little land suitable for cultivation, as the greater part of township is high mountainous country. The parts considered of agricultural value are described in detail below.

Snowy mountain is covered with large fields of perpetual snow and glaciers, and many snow patches show on the mountains along west of township. In south part of sec. 35 in a deep narrow valley lies a great bed of snow, the lower edge of which is only about 800 feet above Stave lake.

The timber over the higher parts is generally very scattered and scrubby, while on lower parts there is a good growth of timber, most of which is included in timber berths.

SEC. 1, FRAC. EAST OF STAVE LAKE.—Steep, rocky slopes for most part rising from shore of lake; small area of workable land at north end, mouth of Cypress creek; sandy soil, very stony; fairly well covered with cedar, fir and hemlock up to 30 inches diameter, of some timber value; of some value for fruit.

SEC. 2, (FRAC.).—Steep rocky slopes rising to west to ridge between lakes; from 250 to 1,400 feet above sea level; no land of agricultural value; thinly covered with fir, cedar and hemlock up to 24 inches, of some timber value.

SEC. 3, NE. $\frac{1}{4}$.—Rolling bench land on summit of ridge between lakes, steep slope to each side, partially suitable for cultivation; from 1,290 to 1,625 feet above sea level; small lake of 10 acres in quarter; sandy soil, some rock and stones; thinly covered with fir, hemlock and cedar up to 3 feet diameter, fair timber value, poor value as fruit land.

NW. $\frac{1}{4}$, (FRAC.).—Steep slopes from Lillooet lake rising to rolling bench land in southwest part, from 500 to 1,515 feet above sea level; partially suitable for cultivation; sandy loam soil, some rock and stones, humus; thinly covered with fir, hemlock and cedar with a few pine up to 3 feet diameter, of fair timber value; poor value as fruit land. Partially included in Timber Berth Y.

SE. $\frac{1}{4}$.—Steep rocky slopes rising from Stave lake to rolling bench land in northwest part, from 250 to 1,625 feet above sea level; partially suitable for cultivation; sandy loam soil, some rock and stones, humus; thinly covered with fir, cedar and hemlock up to 3 feet diameter, of fair timber value; poor value as fruit land.

SW. $\frac{1}{4}$.—Rolling bench land with steep slopes falling to northwest and southeast on summit of ridge between the two lakes, from 960 to 1,510 feet above sea level; partially suitable for cultivation, sandy loam soil, some rock and stones, humus; thinly covered with fir, cedar and hemlock up to 3 feet diameter, some timber value; poor value as fruit land.

SEC. 4, FRAC. EAST OF LILLOOET LAKE.—Rolling bench land on slopes rising back from Lillooet lake; steep and rocky in north part; partially suitable for cultivation; sandy soil, rocky in part, humus; fairly well covered with cedar, fir, and hemlock up to 30 inches diameter, fair timber value; poor value as fruit land. Partially included in timber berth Y.

SEC. 4, (FRAC.); SEC. 5, (FRAC.); SEC. 9, (FRAC.).—Very steep rough rock slopes rising to west from Lillooet lake towards mountains, from 500 to 3,000 feet and over above sea level; no agricultural value; timber scattered, some fair timber in places. Included in timber berth Z.

SEC. 10, (FRAC.); SEC. 11, (FRAC.).—Narrow ridge between Stave lake and Lillooet lake; from 250 to 1,430 feet above sea; steep slopes from either lake; small area of rolling bench land on summit in southeast of section 10, of some value; sandy soil, stony; fir, cedar and hemlock up to 24 inches, of some timber value; very poor value as fruit land. Partially included in timber berth Y.

SEC. 12, SE. $\frac{1}{4}$ (FRAC.).—Small piece of land lying at mouth of Cypress creek on gentle slopes, very stony, of fair value as agricultural land; sandy soil, humus; well covered with cedar and hemlock, some fir to 4 feet diameter, generally small, of some timber value; fair value as fruit land.

SEC. 14, (FRAC.).—High rock hill on ridge between lakes from 250 to 2,020 feet above sea level; rock bluff on Stave lake; small area of land in northwest quarter on valley of creek running into Lillooet lake; rich sandy loam and humus in valley; well covered with timber on west slopes; fair value as fruit land. Partially included in timber berth Y.

SEC. 15, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, (FRAC.).—Considerable area of flat land and gently rolling bench land at north end of Lillooet lake near mouth of Cory creek; very steep slopes to west from edge of flat land; from 500 to 910 feet and upwards above sea level; alluvial soil in part and sandy loam; some small pieces of swampy land; well covered with cedar, fir and hemlock to 4 feet diameter, average 20 inches, of good timber value. Included in timber berth Y.

SEC. 22, SE. $\frac{1}{4}$.—Part gently rolling bench land at mouth of Cory creek covers the southeast corner of this quarter northwest part on steep slopes rising to Snowy Mountain from 720 feet and upwards above sea level; soil, sandy loam and gravel, humus; well covered with cedar and hemlock, some fir to 3 feet diameter, average 20 inches, of some timber value; good value as fruit land on lower parts. Included partially in timber berth Y.

SEC. 23.—Considerable land along small valley of pass between the two lakes running from southwest corner in a northeast direction, summit near centre of section; from 250 to 1,120 feet on valley bottom, partially suitable for cultivation; steep slopes to each side of this valley; sandy clay soil, gravelly, humus; fairly well covered with fir and cedar, brushy, up to 36 inches diameter, average 20 inches, of timber value; poor value as fruit land. Included in timber berth Y.

SEC. 25, NW. $\frac{1}{4}$ (FRAC.); SEC. 36, SW. $\frac{1}{4}$ (FRAC.).—Small area of rolling bench land at mouth of "Glacier" creek; very deep narrow valley with snow bed about a mile from Stave lake; partially suitable for cultivation at mouth of creek; light sandy soil, very rocky to west part, humus; thinly covered with cedar, fir and hemlock to 24 inches, of some timber value; poor value as fruit land. In timber berths 98 and 362.

SEC. 36, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Low flat land along valley of Clearwater in north part of section, about half of northeast quarter; narrow strip at north end in northwest quarter; rocky slopes to the south from 250 to 300 feet and upwards above sea level; alluvial soil and rich sandy loam, some gravel, swampy in part; fairly well covered with fir, hemlock and some cedar up to 3 feet diameter, timber scattered on slopes; good value as farm and fruit land. In timber berth 98.

Tp. 6, R. 3, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

This is a fractional township bounded on north boundary by north limit of railway belt. Range of snow-capped mountains running in a northerly direction from Snowy Mountain, with slopes falling to east of Clearwater creek and to west towards Gold Creek valley. The valley of Gold Creek is very narrow in this township and at an elevation of 1,500 feet above sea level at bottom of valley.

The timber in this township is generally scrubby, very scattered on mountains; some fair timber in the valleys; the timber consists of cedar, fir and hemlock, maple and alder brush.

SEC. 1, NE. $\frac{1}{4}$.—On steep bare rock slopes rising to north towards high mountains from 600 to 2,500 feet above sea level and over; no agricultural value; brulé, very scattered dry trees and windfalls, not of timber value.

NW. $\frac{1}{4}$.—Greater part on bare rock slopes; south part flat land and rolling bench land along Clearwater creek; from 360 to 1,200 feet and upwards above sea level; rich sandy loam, humus, some gravel; fairly well covered with fir, hemlock and some cedar to 3 feet diameter, of fair timber value; good value as fruit land.

SE. $\frac{1}{4}$.—Steep bare rock slopes over half of quarter to the north; low flat land over remainder along Clearwater creek, from 200 to 600 feet and upwards above sea level; rich sandy loam and alluvial soil, some gravel; flat land covered with fir, hemlock and some cedar to 3 feet diameter, of some timber value, maple and alder brush; good value as farm and fruit land.

SW. $\frac{1}{4}$.—Nearly all flat land and gently rolling bench land, flooded in part by beaver dams, easily drained; some small beaver meadows; alluvial soil and rich sandy loam, gravel in parts; fairly well covered with fir, hemlock and some cedar up to 36 inches diameter, average 18 inches diameter, of some timber value, maple, alder and cedar brush; good value as fruit land.

SEC. 2, NE. $\frac{1}{4}$.—Steep rock slopes over north part of quarter, flat and rolling bench land over south part, from 410 to 1,000 feet and upwards above sea level; sandy loam soil, gravel; fairly well covered on south part with fir, hemlock and some cedar up to 36 inches diameter, average 18 inches diameter, considerable small stuff, of some timber value; good value as fruit land.

SE. $\frac{1}{4}$.—Nearly all flat land and rolling bench land; small area to southwest on very steep rock slopes; from 350 feet and upwards above sea level; sandy loam soil, humus, gravel; fairly well covered with timber as above; good value as fruit land.

NW. $\frac{1}{4}$.—The valley of Clearwater creek becomes very narrow in this quarter, small area of land suitable for cultivation, from 410 feet and upwards above sea level, sandy loam soil, humus, timber on flat land as above; fair value as fruit land.

SW. $\frac{1}{4}$.—Very small area of flat land along Clearwater valley in northeast corner; remainder of section on very steep rock slopes rising to 2,500 feet and over above sea level; timber on slopes very scattered, not of timber value.

Tp. 3, R. 4, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Fractional township due to differences between the fourth and fifth systems of survey. The east half of township is mountainous country for most part over 2,500 feet. Possible to cultivate in part, but not considered of value for agriculture. To the west in sections 33 and 32 the slopes fall to Lillooet river and rise gently to west through section 31 to west boundary of township.

This township is well covered with a good growth of timber and the greater part is taken up in timber berths. The timber consists of fir, cedar and hemlock, balsam on the higher parts, generally thick maple and alder brush.

SEC. 31.—Rolling bench land rising to west from Lillooet river, from 420 to 1,200 feet above sea level; high hill with steep slopes and solid rock; showing near centre of section; good bench land to east of hill, and some bench land on fairly gentle slopes to west; sandy loam; some black loam and vegetable humus, stony and gravelly for most part; well covered with fir, cedar and hemlock to 60 inches, average 36 inches, of good timber value, good value as fruit land. In timber berth W.

SEC. 32.—Lillooet river passes through west part of section; gentle slopes to west, slopes to east rising in steps; some steep slopes with rock showing, considerable part on gentle slopes and suitable for cultivation; from 380 to 810 feet above sea level; light sandy soil and gravel for most part, better soil to west of river; covered with hemlock, fir and cedar up to 30 inches, some large to west of river, smaller in east part, of timber value; fair value as fruit land. Included in timber berth W.

SEC. 33.—Steep slopes rising to east, rocky for most part; possible to cultivate in places, but not considered of value; from 810 to 2,330 feet above sea level; sandy soil and gravel, humus; covered with fir, cedar and hemlock up to 4 feet, generally small. Partially in timber berth W.

SEC. 34.—Rolling bench land and highlands on fairly steep slopes, from 2,330 to 2,500 feet and upwards; not considered of value agriculturally; fairly well timbered with cedar, fir and hemlock up to 4 feet, and balsam to 2 feet diameter, of some timber value.

*A. W. Johnson, D.L.S., 1909.—(North outline).—*This is a heavily timbered country, especially the two miles east of Lillooet river, which is very rough and hilly. There are no trails near the line except one crossing it at right angles, at Lillooet river, and one near the southeast corner of section 34, which is nothing but a pack trail till within two miles of Whonock. The rainfall on Stave lake is said to be one hundred and twenty-six inches and on the hills in sections 1, 2 and 3, township 4, and sections 33, 34, 35 and 36, township 3, it must be even more than that. The ground is swampy in many places and the cedar trees on an area of over one hundred acres are rotted in the centre and have dead tops owing to the excessive moisture. Huckleberry bushes grow in great profusion.

Tp. 4, R. 4, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

To the southeast of Lillooet lake and river in this township lies a range of mountains ranging up to 3,810 feet above sea level, with very steep rock slopes rising to the east. Along the river and south part of lake the slopes run back gently for a short distance to the foot of the steep slopes, making some land suitable for cultivation. Sections 1, 2, 3, 11, 12 and 13 are all on mountainous country and contain some

small patches possible to cultivate but not considered suitable for agriculture. On the west of Lillooet lake and Gold Creek valley the slopes rise gently from shore and then steep slopes rising to rolling bench land in the south part of township and to high mountains in the north. To a large extent this rolling bench land is suitable for cultivation. In sec. 32 there is a peak of the Golden ear mountains rising to a height of 5,180 feet, with slopes falling rapidly to east to Gold Creek valley and to west to Raven Creek valley and south towards the rolling bench land spoken of above. Sections 28, 29, 32 and 33 are covered by mountains and contain no agricultural land, and also very little timber on the higher parts.

The whole township with the exception of the higher parts and steeper slopes, is covered by a good growth of timber consisting generally of cedar, fir and hemlock. The greater part of the township is included in timber berths.

SEC. 4, NE. $\frac{1}{4}$.—Rolling bench land on gentle slopes in northwest part of quarter; steep slopes with some rock showing to southeast and covering greater part of quarter; from 680 to 2,450 feet above sea level; black loam over sandy loam and gravel; covered with hemlock, cedar and fir up to 3 feet diameter, average 15 inches, maple and alder brush, of some timber value; good value in part as fruit land.

NW. $\frac{1}{4}$.—Rolling bench land rising on gentle slopes to northwest and southeast from Lillooet river; steep rocky slopes in southeast part of quarter; greater part suitable for cultivation; from 450 to 1,310 feet above sea level; some black loam over sandy loam and gravel; well covered with timber up to 3 feet diameter, average 20 inches, of timber value; good value as fruit land. Partially included in timber berth W.

SE. $\frac{1}{4}$.—Steep, rocky slopes rising to east from 1,310 to 2,400 feet above sea level; no land of agricultural value; fairly well covered with timber, of some timber value.

SW. $\frac{1}{4}$.—Rolling bench land on gentle slopes in west part, rising to east to steep slopes which cover more than half of quarter; from 480 to 1,610 feet above sea level; black loam over sandy loam soil, humus, gravel; fairly well covered with cedar, fir and hemlock up to 3 feet diameter, average 20 inches, of some timber value; good value in part as fruit land. Partially included in timber berth W.

SEC. 5, EAST OF LILLOOET RIVER.—Rolling bench land rising in steps to the south east; some steep slopes with rock showing; partially suitable for cultivation; from 380 to 810 feet above sea level; cedar, fir and hemlock timber to 3 feet diameter, average 20 inches, of timber value; fair value as fruit land. Included in timber berth W.

WEST OF LILLOOET RIVER.—Rolling bench land rising to west from river; from 380 to 1,150 feet above sea level; some steep slopes near river; to a large extent suitable for cultivation; rich sandy loam soil and humus, very little gravel; well covered with timber up to 3 feet, average 2 feet, some scattered fir to 6 feet diameter, good timber value; very good value as fruit land. Included in timber berth W.

SEC. 6.—Rolling bench land on gentle slopes rising in a northwest direction; small lake in northwest quarter with marshy shore; gentle slopes rising to south and north from lake; from 675 to 1,375 feet above sea level; rich sandy loam, vegetable mould, some gravel, rock showing in places in southwest quarter; well covered with timber, some fine cedar to 7 feet diameter in places, of excellent timber value; good value as fruit land. Included in timber berth W.

SEC. 7.—Rolling bench rough and hilly in part, with fairly steep slopes from 1,130 to 2,100 feet above sea level; rich sandy loam soil, gravelly, humus; thinly covered with fir, cedar and hemlock up to 3 feet diameter, with a few scattered large trees, good timber value; fair value as fruit and farm land. Included in timber berth W.

SEC. 8 NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Rolling bench land running west on gentle slopes which rise from Lillooet lake to steep slopes rising to west running off in fairly level bench land

on west boundary; a considerable part suitable for cultivation; from 760 to 2,090 feet above sea level; sandy loam, humus, some gravel; well covered with timber, scattered fir on lower parts to 6 feet diameter, good timber value; good value as fruit and farm land. Included in timber berth W.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench lands on fairly steep slopes rising to west; from 730 to 1,645 feet above sea level; the greater part suitable for cultivation; red sandy loam and vegetable mould, some gravel; well covered with timber, cedar, fir and hemlock to 3 feet diameter, some scattered fir to 6 feet diameter, good timber value; fair value as fruit land. In timber berth W.

SEC. 9, WEST OF LILLOOET RIVER.—Rolling bench lands on gentle slopes rising to west from river and lake from 480 to 1,100 feet above sea level; to a large extent suitable for cultivation; sandy loam soil, humus, some gravel and stones; well timbered, of good timber value; good value as fruit land. In timber berth 80.

EAST OF RIVER.—Rolling bench lands on fairly steep slopes rising to southwest from 480 to 950 feet above sea level; black soil over sandy loam and gravel; covered with fir, hemlock and cedar up to 2 feet diameter, some scattered trees up to 6 feet, of some timber value; good value as fruit land. Partially included in timber berth 44.

SEC. 10, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$ (FRAC.), SW. $\frac{1}{4}$.—Some land on gentle slopes running back about a half a mile from lake shore to foot of steep mountain slopes from 495 to 1,000 feet and upwards above sea level; sandy loam soil with thin layer black soil and humus; thinly covered with hemlock, fir and cedar up to 24 inches, with scattered fir and hemlock up to 6 feet diameter, part brulé, good timber value, timber very scattered on steep slopes; fair value as fruit land. Partially included in timber berth 44.

SEC. 14, NW. $\frac{1}{4}$ (FRAC.), SW. $\frac{1}{4}$.—Small area bench land on gentle slopes, a few acres in each quarter, running back to steep rock slopes rising to mountains from 495 to 1,025 feet and upwards above sea level; sandy soil, very stony, covered in places with broken rock; part brulé thinly covered with fir, cedar and hemlock up to 5 feet diameter, of good timber value; poor value as fruit land. Included partially in timber berth 44.

SEC. 15. FRAC. EAST OF LAKE.—Bench land on gentle slopes rising to southeast from lake to 1,025 feet above sea level; partially suitable for cultivation, very stony to northern parts, black soil over sandy loam and gravel; part brulé, cedar, fir and hemlock to 5 feet in places, of timber value; fair value as fruit land. In timber berth.

FRAC. WEST OF LAKE.—Bench land on gentle slope rising from shore of lake from shore to 740 feet above sea level; all suited to agriculture; sandy soil, gravel; well covered with timber of value; fair value as fruit land. In timber berth Z.

SEC. 16.—Bench land on gentle slopes rising to west from lake to foot of steep slopes; from 495 to 1,950 feet above sea level; rich sandy loam, some gravel, humus; well covered with cedar and hemlock, with a few scattered fir up to 6 feet diameter, average 30 inches diameter, of good timber value; fair value as fruit land. Included in timber berths Z and W.

SEC. 17.—Steep slopes on east side rising to northwest, covering all of southeast quarter, a good part of northeast and some of the southwest, rising to rolling bench land and highland on west part of section, a considerable part of which is suitable for cultivation but considered high for fruit growing; sandy loam soil, some rock showing; well timbered with fir, cedar, hemlock and some balsam up to 36 inches, average 20 inches diameter, of timber value; fair value as farm land. In timber berth W.

SEC. 18.—Rolling bench land with some steep slopes rising to east and west from the North Lillooet river; a considerable part suitable for cultivation; from 1,060 to 2,270 feet above sea level; considered high in part for fruit; sandy soil, black loam surface, stony in part; well covered with cedar, fir and hemlock up to 4 feet diameter, average 30 inches, good timber; fair value as fruit and farm land. In timber berth W.

SEC. 19.—Greater part of section covered by high rocky hill from 1,150 to 2,500 feet above sea level; some land on gentle slopes along western range of legal subdivisions partially suitable for cultivation; sandy loam and black loam, some gravel; solid rock showing in many places on hill; cedar, fir, hemlock and some balsam up to 4 feet diameter, of good timber value; fair value as fruit land in western parts. Included in timber berth W.

SEC. 20.—Bench land and highlands; steep slopes rising to northeast from North Lillooet river; steep slopes on east falling towards Lillooet lake; considerable rolling bench land to centre and southerly; from 2,200 to 3,020 feet and upwards above sea level; black loam over sandy loam, much rock showing in places; fairly well covered with fir, hemlock and balsam, some cedar, of some timber value; of doubtful agricultural value. In timber berth W.

SEC. 21.—Very steep slopes on west half and over good part of northeast quarter, remainder on fairly gentle slopes; from 740 to 3,020 feet and upwards above sea level; partially suitable for cultivation; black loam over sandy loam, some stones, solid rock on steep slopes; well covered with timber on lower slopes, of considerable timber value; fair value in part as fruit land. Included in timber berths Z and W.

SEC. 22 (FRAC.); SEC. 23 FRAC. WEST OF LAKE.—Nearly all flat land and rolling bench land rising gently to west from 495 to 940 feet above sea; small area on steep slopes in northwest corner partially suitable for cultivation; sandy loam soil, humus, some gravel and stones; well covered with cedar, fir and hemlock up to 4 feet diameter, good timber value; fair value as fruit land. Included in timber berth Z.

SEC. 23, FRAC. EAST OF LAKE; SEC. 24 (FRAC.); SEC. 25, FRAC. EAST OF LAKE.—Very steep rocky slopes rising from shore of lake to mountains, up to 3,810 feet above sea level; no agricultural land; timber scattered and scrubby, generally better in north parts. Partially in timber berth 533.

SEC. 25, FRAC. WEST OF LAKE; SEC. 26, E. $\frac{1}{2}$ (FRAC.).—On very steep slopes rising from shore of lake in a northerly direction to mountains from 495 to 1,900 feet above sea level; no land of agricultural value; well covered with fir, cedar and hemlock to 36 inches diameter, of timber value. Included in timber berth Z.

SEC. 26, NW. $\frac{1}{4}$; SW. $\frac{1}{4}$ (FRAC.).—Bench land on gentle slopes from Gold creek, covering greater part of southwest quarter and half of northwest quarter, partially suitable for cultivation; steep slopes in northeast part from 495 to 1,890 feet above sea level; black loam and sandy loam with gravel, humus; fairly well covered with timber up to 4 feet diameter, of good timber value; fair value as fruit land. Included in timber berth Z.

SEC. 27, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Bench land on gentle slopes rising from Gold creek; on the west to the foot of very steep rock slopes from 540 to 925 feet and upwards above sea level; partially suitable for cultivation; black loam and sandy loam and gravel; well covered with fir, cedar and hemlock timber up to 4 feet diameter, of good timber value, smaller and scattered on steep slopes; fair value as fruit land. In timber berth Z.

NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—On steep precipitous slopes rising to mountain from 750 to 3,000 feet and upwards above sea level; very small area of land in southeast corner suitable for cultivation; black loam over sandy loam, humus; timber on slope scattered and smaller, of some timber value. In timber berth Z.

SECS. 30, 31.—Narrow strip of rolling bench land covering west part of the western range of legal subdivisions through sections, considered suitable for cultivation; to the east of this land lies Raven creek in a narrow valley, with steep slopes on each side, those to the east rising to the Golden Ear mountain from 1,200 to 2,500 feet and upwards above sea level; well timbered along Raven creek and on lower slopes of mountain, cedar, fir, some hemlock and balsam up to 40 inches diameter, average 20 inches, of good timber value; doubtful fruit value, close to high mountains. Included partially in timber berths 350, 351 and W.

SEC. 34, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Narrow strip of bench land on gentle slope on west of Gold creek running back to foot of steep rocky slopes rising to the Golden Ear mountain; from 640 to 1,250 feet upwards above sea level; rolling land on gentle slopes to east of Gold creek, from 640 to 850 feet above sea level; black loam and humus over sandy soil and gravel, some stones; well covered on lower parts with cedar, fir, and hemlock up to 4 feet diameter, average 24 inches, of value; fair value as fruit land. In timber berth Z. (1).

SEC. 35, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$; SEC. 36 (FRAC.)—Steep slopes to east from Gold creek and west from Lillooet Lake to high mountains reaching to 4,000 feet elevation; no land considered of agricultural value; well timbered throughout. Included in timber berths Z (1) and Z (2).

Tp. 5, R. 4, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

This township is very mountainous in character and contains no land of much value for agricultural value. In section 5 lies a summit of the Golden Ear mountain, reaching a height of 5,525 feet above sea level. From this mountain runs, in a northerly direction, a rough mountain range with several points over 5,000 feet and a considerable area over 5,000 feet elevation. On the east the slopes of this mountain range fall precipitously to Gold creek, and on the west towards Pitt lake and the valley of Raven creek. East of Gold creek, steep rough slopes rise to mountain 4,000 feet high in section reaching a height of 4,370 feet elevation. The valley of Gold creek is narrow, ranging from 680 to 1,300 feet at bottom of valley, and contains some small areas of workable land. The season in this valley is short, due to the proximity of high mountains, and the land is not considered of much value. At the south end of Gold Creek valley in the township is a falls 215 feet high, and if there were sufficient water would be good site for water-power. Between Raven creek and Pitt lake lies a low range of rock hills, with steep slopes rising from the creek and falling very rapidly on the west to Pitt lake.

On the mountain range through the middle of the township, the timber is very scattered and scrubby, many points rising above timber line. On the lower slopes and in the valleys of the creeks there is a good growth of timber, particularly along Raven creek. The timber consists generally of fir, cedar and hemlock with some balsam and jack pine in places.

SEC. 3, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Some area of workable land along valley of Gold creek rising on gentle slopes from creek and running to the foot of steep mountain slopes; partially suitable for cultivation; from 680 to 1,330 feet above sea level; sandy soil, humus, gravel; well covered with cedar, hemlock and some fir to 3 feet diameter, considerable small stuff, of some timber value; doubtful value as fruit land. In timber berth 376.

SEC. 6, SW. $\frac{1}{4}$.—Very small piece of rolling bench land lying to the west of the Raven Creek valley in southwest corner of township; remainder of quarter on steep slopes rising to east and west from Raven creek, from 1,150 to 1,650 feet and upwards above sea level; sandy clay soil, humus; fairly well covered with timber, part old brûlé, cedar, hemlock and some fir of some timber value; doubtful value for agriculture. Included partially in timber berth 350.

SEC. 18, NW. $\frac{1}{4}$ (FRAC.); SW. $\frac{1}{4}$ (FRAC.).—Small area of workable land at mouth of Raven creek; alluvial soil; covered with timber, cedar and hemlock, some fir, 20 inches diameter average, of some timber value, thick alder brush; fair value as fruit land.

Tp. 6, R. 4, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Fractional township bounded on north by north limit of Railway Belt and on west by Pitt lake. The township is all covered with high mountains. Very steep slopes rise from Gold creek on east and fall to Pitt lake on the west, continuing the

range that runs through township to the south and reaching an elevation of 5,000 feet above sea level. Slopes on the west broken by deep, narrow, timbered valleys of Osprey creek in section 8 and Hyak creek in section 18.

The timber is generally scattered and of scrubby nature. On the slopes to the west of Gold creek the timber is very scattered and not of much timber value. On this slope there are some snow patches at a fairly low elevation. In the valleys of Osprey and Hyak creeks and along the shores of Pitt, in places there is a good growth of fir and cedar timber. Timber berths 236 and 381 have been logged to a large extent.

SEC. 8. (FRAC.).—At the mouth of Osprey creek there are a number of acres of flat land and land on gentle slopes suitable for cultivation; to the east part of section the valley of the creek becomes narrow; soil, sandy, humus, very gravelly; best of timber has been logged; fair value as fruit land. Included partially in timber berths 236 and 381.

SEC. 18. (FRAC.).—A few acres of flat land at the mouth of Hyak creek; steep slopes to the east and north rising to mountains; high falls on creek; valley above very narrow; mountains to north through section 19 nearly bare rock; alluvial soil, sandy and gravelly; small timber, some large cedar on flat land; fair value as fruit land.

Tp. 3, R. 5, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Fractional township due to differences between the fourth and fifth systems of survey. All rolling bench land and flat land on slopes rising to east and west from the North Lillooet river well timbered, particularly to east of river, with cedar, fir and hemlock.

SEC. 35. (FRAC.).—North Lillooet river runs in a southwesterly direction through east part of section; gently rolling slopes rising to east; flat land to west to small rocky hill on west part; partially suitable for cultivation; from 300 to 600 feet above sea level; soil, black loam over sandy soil and gravel; well timbered with cedar and hemlock with some fir, small on west part, to 3 feet diameter, of some timber value; good value as fruit land. Partially in timber W.

SEC. 36 (FRAC.).—Rolling bench land on gentle slopes rising to east from 565 to 1,115 feet above sea level; solid rock showing in one or two places; partially suitable for cultivation; soil, black loam and humus over sandy soil and gravel, some stones; well covered with fir and hemlock some cedar to 30 inches diameter, average 20 inches, of some timber value; good value as fruit land.

Tp. 4, R. 5, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

Fractional township due to differences in the fourth and fifth systems of survey. Pitt lake covers part in northwest corner. The north and west part of township is covered by rough, rocky hills reaching over 3,000 feet above sea level at highest point in section 26. Considerable land of use for agriculture in small valley along east boundary of township and on gentle rolling slopes on south part of township.

Nearly all brûlé on rocky hills in west part of township. Some very scattered green timber of small size. Some large dry trees standing to south part, of some timber value. Green timber of good size lies along east boundary of township.

SEC. 1.—Rolling bench land on gentle slopes rising to east and west from the North Lillooet river; greater part suitable for cultivation; from 565 to 1,155 feet above sea level; rock showing in places; soil, black loam over sandy loam and gravel, stony and scattered boulders in part; well covered with cedar to 6 feet in diameter and hemlock to 3 feet diameter, average 24 inches diameter, part brûlé to west, of good timber value; good value as fruit land. In timber berth W.

SEC. 2; SEC. 3, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$ (Frac.), SE. $\frac{1}{4}$ (Frac.).—Bench land, gently rolling on gentle slopes rising to north, from 265 to 950 feet above sea level; greater part suitable for cultivation; rock showing in places; sandy clay soil, very stony in part; brulé, some green timber to southeast, large standing dry timber, of some timber value; good value as fruit land.

SEC. 10, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$ (Frac.).—Rough, rocky hills covering greater part of the north; narrow strip of land along the south suitable for cultivation, from 560 to 900 feet above sea level; sandy clay soil, stony; brulé; some young fir and cedar, not of timber value; fair value in part as fruit land.

SEC. 11, NE. $\frac{1}{4}$.—Rolling bench land on slopes rising to northwest; rocky and hilly in northwest part; considerable part considered of value for agriculture; black loam and humus, sandy loam, stony and rocky for most part; green timber on east, brulé on west, cedar and hemlock with fir up to 36 inches diameter, average 20 inches, of some timber value. Partially included in timber berth W. Poor value as fruit land.

NW. $\frac{1}{4}$.—Greater part on rough rocky hills, not of value agriculturally; small area to southeast corner considered of some value; stony, sandy clay soil; brulé, some large dry standing trees and young cedar and fir, not of timber value; very poor value as fruit land.

SE. $\frac{1}{4}$.—Rolling bench land on slopes rising to north from 810 to 1,120 feet above sea level; rocky in part; to a large extent suitable for cultivation; sandy loam, stony; brulé for most part, green timber on east, of some timber value; fair value as fruit land. Partially in timber berth W.

SW. $\frac{1}{4}$.—Bench land, rolling, very rocky in places; small rock knolls; from 560 to 1,100 feet above sea level; partially suitable for cultivation; sandy clay soil, stony; brulé, some young green bush; fair value as fruit land.

SEC. 12.—Bench land on slopes rising to east and west from Lillooet river; some steep slopes to north part west of river from 860 to 1,525 feet above sea level; solid rock showing in a number of places, bed of river through solid rock; soil, some black loam, humus over sandy soil, stony; well covered with cedar, fir and hemlock, some good cedar in part, of good timber value; fair value as fruit land. Included in timber berth W.

SEC. 13, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land and land on gentle slopes along valley along east part of township; small lake partly in northeast quarter; very steep slopes to the west rising to high rock hills from 1,060 to 1,525 feet and upwards above sea level; part swampy meadow land on east boundary; sandy loam soil, some gravel and boulders, black muck in swamp land; cedar, fir and hemlock to 4 feet diameter, of good timber value, smaller on slopes to west; fair value as fruit land. Included in timber berth W.

SW. $\frac{1}{4}$.—Bench land on steep slopes in part rising to north and east from 1,235 to 1,525 feet and upwards above sea level; partially suitable for cultivation in southwest corner; rock showing in many places; sandy loam soil, some black loam and humus, very stony; cedar, fir and hemlock, generally of small size, 20 inches diameter, of some timber value; poor value as fruit land. In timber berth W.

SEC. 24, E. $\frac{1}{2}$; SEC. 25, E. $\frac{1}{2}$; SEC. 36, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Considerable rolling bench land on small valley along east boundary of section, bounded on the west by steep slopes rising to rocky hills. This bench land covers greater part of the east half of sec. 24 and about one-half of same of sec. 25, all of northwest quarter of sec. 36 and a good part of the northeast and southeast quarters. Some small lakes to north part of sec. 36 at an elevation of 1,575 feet above sea level. Land ranges from 1,080 to 1,605 feet and upwards above sea level. Soil, sandy loam. Some meadow land in sec. 24, black soil, humus. Covered with good growth of timber of considerable value. Doubtful value for agricultural purposes. Included in timber berths W and 351.

A. Lighthall, D.L.S., 1911.—The lands surveyed are in the valley of the Pitt river in British Columbia. This district consists of a large clay flat along Silver creek. The land is for the most part bare of trees and, being low, is subject to overflow. There is a tide in Silver creek which rises about 4 feet daily and, when the tide is in, the stream is navigable by gasoline launches for a couple of miles from its mouth. All this section of country is very easily accessible by water as crafts of almost any size can come up the Pitt river. The soil in this section varies. The flat portion, which is subject to overflow, is composed of a heavy stiff clay, very fertile but, in its present condition, not adapted to agriculture. By dyking and under-draining at an estimated cost of 75 to 100 dollars an acre this land can be converted into the best of land for growing grain, vegetables or small fruits and should be worth about 150 dollars per acre. The soil on the higher lands and for some distance up the hillsides is of a lighter and more porous texture and, being of an alluvial nature, is very fertile. It is heavily timbered with cedar, fir, hemlock, alder and a heavy growth of smaller trees, such as crab-apple and vine maple. On the western side of Silver creek the timber is large and valuable for logging purposes, but on the eastern side it is rather scrubby. When the land is cleared of timber and stumps it will be ideal for orchards. There is an abundant supply of fresh water everywhere. The mountain streams are hardly large enough or permanent enough to be available for water-power. The climate is very damp, but owing to the low altitude there is no very extreme cold and summer frosts are unknown. Wood for fuel is abundant on the higher ground, but no coal is found. Stone-quarries could be located at a dozen different places. The stone is suitable only for road making or cement work and transportation facilities will have to be very good to make the stone valuable. A good rock-quarry might be opened on the southeastern corner of section 1, township 41, where deep water lies close to the shore. No minerals of value were seen. Some of the settlers claim that the clay on the low land is of good quality for brick-making and, if this be so, an important industry could be developed, as wood is plentiful and transportation good. Fish and game are abundant. On the highest parts of the mountains there are goats; lower down bears and deer are seen and grouse are quite plentiful. Along the streams are huge flocks of wild ducks and the locality is a favourable one for duck hunting. Fish abound in the streams at certain seasons. About the first of October the annual run of dog and hump-backed salmon occurred and the streams were crowded with these fish. White men do not consider these fish fit for food, but the Indians dry large numbers for winter use. Trout of a fine quality follow these salmon and live on the eggs. That part of the survey in township 4, range 5, is in practically the same district and was reached by going up the Lillooet river in boats. It can also be reached from Haney or Hammond on the Canadian Pacific railway. This district is of the same description as the Silver Creek district described above.

W. J. Johnston, D.L.S., 1913.—(*Sections 35 and 36.*)—This township was reached from Westminster Junction, a station on the Canadian Pacific railway. The country is very rough, the highest elevation being 3,400 feet. The mountains run in a north-easterly direction parallel to the easterly shore of Pitt lake, and the land slopes south-easterly from this range. The soil is a sandy loam with a gravel subsoil. The land is timbered heavily with fir, cedar, hemlock, birch, balsam and spruce. An old *brulé* was encountered in the northwest quarter of section 23. The fir, cedar and hemlock range up to 4 feet in diameter and in some places would reach 80,000 feet, b.m., to the acre. No hay was seen. The water is all fresh and is found in many small creeks. The land is not liable to flooding. No water-powers exist. The climate is mild with snow falling about the 15th of November on the mountains. Wood for fuel may be had over the entire portion surveyed, but no coal was encountered. There are no stone-quarries, but one exists west of this township on the Pitt river. The rock consists of the granites of the coast range, batholith, metamorphosed sedimentaries and volcanics. There are no mineral claims. Oil is being bored for, about two

miles southwest in the lands reclaimed by the Pitt river dykes. Game is very scarce and consists of deer, bears, mountain goats and sheep. Large numbers of wild ducks and a few flocks of wild geese were seen on Pitt lake, the shallow lake giving them a good feeding ground. There is fairly good fishing in the lakes, the varieties being trout and whitefish.

Tp. 5, R. 5, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

FRACTIONAL TOWNSHIP.—Pitt lake covers a considerable part along the east. Township 41 E. C. M. takes up a portion in the southwest. Greater part covered by rough rocky mountains, and rocky hills. In the north part of township steep rock slopes rise from the shores of Pitt lake to west over 3,000 feet and reaching 4,200 feet above sea level on highest part in sections 33 and 34. The slopes then fall rapidly to the west to Silver Creek valley which at north end of township is very narrow. To the west of Silver creek steep slopes rise, precipitous in places towards mountains over 5,000 feet in height. West of Pitt lake and covering a good part of sections 9, 10, 14 and 15 lie low rock hills rising to 1,750 feet above sea level in section 10. This leaves very little land of any value agriculturally. In part of township east of Pitt lake, steep rock slopes rise to range of hills lying between Raven Creek valley and Pitt lake, which reach a height of 2,450 feet in north part of section 1.

Generally the timber over this township is of little value, being very scattered and scrubby and considerable part being old *brulé*. In valleys there is some fair timber.

SEC. 1, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land in south part in vicinity of lakes; north and west covered by rocky hill from 1,515 to 2,000 feet above sea level; partially suitable for cultivation; soil sandy loam, humus, very stony, rock showing in places; part *brulé*, some timber to south, fir, cedar and hemlock to 3 feet diameter, average 2 feet, some small pine; of doubtful agricultural value.

SEC. 8 (FRAC.).—Flat land along Silver creek and some land on gentle slopes in west part running into very steep slopes rising to high mountains, from 95 to 700 feet above sea level; rich sandy clay loam, gravel subsoil, some rock on slope; thick brush on flat land, a few large dry spruce and hemlock, not of much timber value, good timber on slopes to west; very good value as fruit land. Partially included in timber berths 66 and 452.

SEC. 9, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$ (FRAC.).—Flat land in northwest quarter and small area in northeast quarter; remainder of northeast quarter on rough rocky hills, from 95 to 260 feet and upwards above sea level; rich sandy loam, much gravel in places; covered with thick brush, alder, maple and crab apple with some scattered cedar and hemlock, and a few spruce, not of much timber value; very good value as fruit land.

SEC. 14, (FRAC.).—Nearly all covered by low rock hill from lake to 490 feet and upwards above sea level; a small area of land in northwest corner along valley of small creek; sandy clay soil and some clay soil; *brulé*, with small young trees on rock hill, some good timber in valley; good fruit land.

SEC. 15, NE. $\frac{1}{4}$.—Small area of rolling bench land in northeast corner with rocky slopes on either side, from 240 to 800 feet above sea level and upwards; clay soil and sandy loam, humus; well covered with good timber in valley; good fruit land in valley. Partially in timber berth 419.

SEC. 16, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Some flat bench land along south and east and land on gentle rolling slopes rising to northeast; very steep, broken rock slopes to the northeast parts of quarters; from 100 feet and upwards above sea level; rich clay loam and gravel, stony in part; timber, small alder, cedar and maple brush, some small fir and hemlock, not of timber value; very good fruit land in part.

SEC. 17.—The valley of Silver creek becoming narrower through this section; considerable land suitable for cultivation on slopes to either side; from 100 to 1,700 feet

and upwards above sea level; sandy loam, vegetable mould; fairly well covered with timber, cedar, fir and hemlock, maple and alder brush of some timber value; fair value as fruit land. Partially included in timber berths 452 and 66.

SEC. 20. NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—The valley of Silver creek becomes very narrow in this section, with very steep slopes at north end rising from the river; some land on benches and gentle slopes in southern part suitable for cultivation; sandy loam soil, humus, stony; slopes fairly well covered with timber of some value; poor value as fruit land. Partially included in timber berths 452 and 66.

SEC. 23. SW. $\frac{1}{4}$. (FRAC.).—Small area of good land along valley of small creek with rock slopes on each side from lake to 470 feet and upwards above sea level; clay loam and humus, stony in part; well covered in valley with cedar, fir and hemlock up to 2 feet diameter.

Tp. 6, R. 5, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

FRACTIONAL TOWNSHIP.—This township is all of mountainous character, with rough rock slopes from Pitt lake on each side, rising to 3,500 feet above sea level. In sections 1 and 12 slopes less steep but are composed of low rocky hills with sharp slopes to the shore of lake. Deep valley of creek in section 27 contains no land. Slopes rise from shore at mouth and are very stony. Similarly on creek on east side through sections 26 and 35.

Timber is generally very scattered and scrubby. Along the shore in places and on the rocky hills in secs. 1 and 12 there is some fair timber.

A. Lighthall, D.L.S., 1912.—(Partial.)—This township is situated on the west shore of Pitt lake. The physical features of the country are practically the same as those of township 6, range 7, with the possible exception that the mountains are a little more precipitous and there is less flat land along the streams. Along the valleys of the streams there is the same heavy timber which gradually thins out and becomes more stunted as the higher levels are reached, and at the summit there is the same stretch of rolling land with grass, ponds and only a few stunted trees. The quarter-post on the south boundary of section 21 is situated at the very summit of the divide, one side sloping northeast toward Pitt lake and the other descending abruptly to a ravine of tremendous depth which curves away to the southwest and is said to be the headwaters of Silver creek which flows into Pitt river. No minerals have been found in this district, although DeBeck creek appears to be a favourite with the prospectors, and no quarries have been developed. DeBeck creek would make a fine water-power as the flow of water appears to be fairly steady and any head up to 1,000 feet could be obtained. Fish and game are plentiful but hard to obtain, the country being so rough. The climate is the same moist climate as is found everywhere along the coast.

Tps. 6 and 7, R. 5, W. 7th Mer. *A. Lighthall, D.L.S., 1911.*

This part of the country is easily accessible by boat up the Pitt river and Pitt lake. The country is very rough and mountainous and is unfitted for anything but logging or mining. The hills are nearly all timbered to the summits with fine large trees, cedar up to 15 feet, fir up to 8 feet in diameter, with hemlock somewhat smaller forming the bulk of the timber. A few cypress, balsam, yew, pine and alder are also found in some parts. There is no hay in this district. Water is very plentiful and of good quality but the quantity in each stream varies very much according to the season; most of the streams being almost dry during August, September and the winter months. Water-power could be developed from two of the streams in this district. Scott creek has a fairly permanent supply of water and if dammed would furnish a very good power. Rainbow creek would be more easily available, having a series of

cascades about a quarter of a mile from the mouth with a total descent of 800 feet and at the time of the survey when the water was fairly low there were about 30 cubic feet per second flowing over the falls. The climate is mild and moist and no summer frosts were observed. Wood as fuel was very plentiful but neither coal nor lignite were found. All the rock is granite and unsuited for building purposes but some of it is being transported by boat and used for road-making. Up to the present no minerals have been discovered in commercial quantities but prospectors report having found gold, silver and copper. The granite contains a large quantity of iron pyrites. Game is fairly plentiful, bears, deer and mountain goats having been found.

Tp. 7, R. 5, W. 7th Mer. *A. J. Campbell, D.L.S., 1910.*

FRACTIONAL TOWNSHIP OF FOUR SECTIONS.—This township is all of mountainous character, rising to a height of 4,900 feet and higher above sea level. Contains no land of agricultural value.

Tp. 6, R. 7, W. 7th Mer. *A. Lighthall, D.L.S., 1912.*

(*Partial.*)—This township is situated on the shore of the north arm of Burrard inlet, and is easily reached by steamer from Vancouver. The survey was for the purpose of laying out a timber berth and the land is too rough to ever be of much use for agricultural purposes. From the shore there is a steep climb of about 800 feet to a sort of basin of comparatively flat land surrounded on three sides by steep, high mountains. The survey was carried to the top of the mountains on the east side, which mountains formed the divide between Burrard inlet and Coquitlam lake, and after getting above the timber line, a beautiful stretch of park-like country was found extending along the summit. This would make an ideal grazing country as there are numerous pools of water, but at present it would be rather difficult to get cattle up to it. No game was seen, but there were many signs of deer, bears and goats. Water-powers are numerous, as in mountainous countries like this every stream is an undeveloped water-power. Grand creek, the main one in this valley, is now furnishing power to run a quarry and stone-crushing plant, situated on the shore of Burrard inlet, but only a small fraction of its full power is used. The climate is mild and wet. Wood fuel is plentiful everywhere but there is no coal, nor have any minerals of economic value been discovered. Stone-quarries for crushed rock can be located anywhere that transportation facilities permit. No building stone is found here, however, the native rock being granite.

Tp. 12, E.C.M. *A. J. Campbell, D.L.S., 1910.*

The greater part of this township has been disposed of, there being only a few sections and parts of sections in northeast part remaining and all of these, except two quarter sections are included in timber berths. Part of secs. 25, 26, 27 and 33 and secs. 34, 35, and 36 are undisposed-of. The Lillooet river runs through secs. 35, 26 and 27. The land rises on the east in a succession of benches and slopes more or less steep to the east boundary of township. On the west the land rises to a summit in sec. 34 there falls towards the North Lillooet river which runs through the west part of sec. 33.

SEC. 25, NE. $\frac{1}{4}$.—Rolling bench land general slope rises in a northeast direction; from 600 to 1,090 feet above sea level; good creek runs in southerly direction through quarter; of fair agricultural value; soil, sandy loam, some gravel, vegetable humus; timber generally small fir, cedar and hemlock, with some scattered trees up to 3 feet diameter, of some timber value; fruit land fair value.

NW. $\frac{1}{4}$.—Rough rolling bench land; slope rising to northeast from 545 to 1,080 feet above sea level; hilly in part along west side; considerable part well suited for

cultivation; soil, sandy loam, humus, some gravel and rock; cedar, fir, hemlock and brush, small, some up to 3 feet diameter, fair timber value; fair value as fruit land. Included in timber berth 530.

SE. $\frac{1}{4}$.—Bench land on slope falling to southwest, slightly rolling, from 500 to 785 feet above sea level; creek runs in southerly direction through quarter; considerable part suitable for cultivation; soil, sandy loam, some gravel, humus; timber generally small, cedar, fir, hemlock, a few scattered trees of fair size, not of much timber value; fruit land good value.

SEC. 26, NE. $\frac{1}{4}$.—Fairly level bench land; gentle slope rising to northeast, small hill on east side; from 490 to 700 feet above sea level; good agricultural land; soil, sandy clay loam, vegetable mould; timber, cedar, fir and hemlock, some thick and small in places, some good timber up to 4 feet diameter; good value as fruit land. Included in timber berth 530.

SEC. 27 NE. $\frac{1}{4}$.—Fairly level bench land; gentle slope rising to northwest from 310 to 385 feet above sea level; good agricultural land, soil, sandy loam, humus, some gravel in places; well covered with good growth of cedar, hemlock and fir up to 3 feet diameter, average 20 inches diameter, of good timber value; good value as fruit land. In timber berth W.

SEC. 33, NE. $\frac{1}{4}$, PART OF SE. $\frac{1}{4}$.—Rolling land and hilly, rock showing in places, from 340 to 720 feet above sea level; considerable part suitable for cultivation; soil sandy loam, some rock, humus; timber, well covered with cedar, fir, hemlock up to 4 feet diameter, of good timber value; fair value as fruit land. In timber berths W and 526.

SEC. 34, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling lands, general slope rising to north, from 450 to 1,100 feet above sea level; considerable part fairly flat benches; some steep slopes and a few rock knolls in south half; good part suitable for cultivation; some small creeks; soil, sandy loam, some gravel and stones, humus, particularly to north-east part; timber, good growth of cedar, fir and hemlock up to 3 feet diameter, average 2 feet diameter, good timber value; fruit land fair value. Included in timber berth W.

SEC. 35, NE. $\frac{1}{4}$.—Lillooet river passes through quarter on west steep slope for 100 feet from river, then running off to west on level bench; on the east gentle slopes rise back steadily from river; from 350 to 650 feet above sea level; good part suitable for cultivation; soil, sandy loam and clay loam, some gravel and stones; timber, cedar, fir and hemlock up to 4 feet diameter, average 2 feet diameter, good timber value; fair value as fruit land. Included in timber berth 530.

NW. $\frac{1}{4}$.—Level bench land, slightly rolling in southeast part; high hill with steep slopes, rocky in northwest corner; good land on east and south; soil, sandy loam, vegetable humus, gravel subsoil; timber, cedar, fir and hemlock up to 4 feet diameter, average 2 feet diameter, good timber value; fair value as fruit land. Included in timber berth W.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Lillooet river passes through half section, gentle slopes rise to east and west from river; from 330 to 695 feet above sea level; good agricultural land; some small creeks; soil, sandy, some gravel and rock, humus; timber, cedar, fir and hemlock up to 40 inches diameter, average 24 inches diameter, good timber value; fair value as fruit land. In timber berths W and 530.

SEC. 36, NE. $\frac{1}{4}$.—Fairly steep slopes rising to east from 730 to 1,395 feet above sea level; very rocky and stony in northeast part; some land in west and south that could be cultivated; soil, sandy, gravelly, vegetable mould; timber, cedar, fir and hemlock and brush, generally small, some good timber in places; poor value as fruit land. Included in timber berth 530.

NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling slopes, bench land, rising in an easterly direction from 500 to 1,290 feet above sea level; a good part suitable for cultivation, though rough and rocky in places to north of northwest quarter; soil, sandy gravelly, some stones, humus; timber cedar, fir, hemlock and brush; fruit land fair value. In timber berth 530.

Tp. 15, E.C.M. *A. J. Campbell, D.L.S., 1910.*

The undisposed of lands in this township lie on the foot end of a mountain range running out to the south with slopes rising on the east from Stave river, and on the west from Lillooet river. The slopes on the south are gentle and fairly even, those on the east and west in secs. 30 and 31, and secs. 35 and 36 are steep with considerable rock showing. The slopes are well covered with fir, cedar and hemlock timber and brush.

SEC. 15, NE. $\frac{1}{4}$, W. $\frac{1}{2}$; NW. $\frac{1}{4}$; SE. $\frac{1}{4}$, E. $\frac{1}{2}$; SW. $\frac{1}{4}$.—Rough bare rock hill covers the whole of this part of the section; from 380 to 1,200 feet above sea level; no value; old brulé, windfalls and some dry timber standing, generally small, 10 inches diameter, of no timber value.

SEC. 17, NW. $\frac{1}{4}$.—Gently rolling, level bench land, from 515 to 380 feet above sea level; all good land; soil, sandy humus, some gravel and stones; timber, cedar, fir and hemlock and brush, some trees up to 7 feet diameter, of good timber value; good value as fruit land. Timber berth 314.

SEC. 19, NE. $\frac{1}{4}$; SE. $\frac{1}{4}$, N. $\frac{1}{2}$; SEC. 20, N. $\frac{1}{2}$; SEC. 21, N. $\frac{1}{2}$; SEC. 22, W. $\frac{1}{2}$.—Gently rolling bench land on easy slope rising to north, ranging from 595 to 1,105 feet above sea level; a number of small creeks; all good agricultural land; soil, sandy with gravel, vegetable mould; well covered with cedar, fir and hemlock timber up to 5 feet diameter, some small stuff in places on western part, brulé in south part of sec. 22; fair value as fruit land. Included in timber berth X.

SEC. 25, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land from 350 to 720 feet above sea level; some steep slopes at north along creek; a good part suitable for cultivation; soil, sandy loam, humus; timber, old brulé for most part, some timber in places, cedar, hemlock up to 6 feet diameter, maple and alder brush; fair fruit land. Included in timber berth 106. William Bell squatter on southwest $\frac{1}{4}$.

SEC. 26, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—The greater part of northeast and part of northwest quarter is covered by a lake; considerable bench land around lake; slopes to north of lake fairly steep, but of some value; from 660 to 1,190 feet above sea level; a number of small creeks; soil, sandy loam; some rock outcrops to north of lake; timber, covered with hemlock, fir and cedar up to 6 feet diameter, of good timber value; fair value as fruit land. Included in timber berth 106.

SEC. 27, NE. $\frac{1}{4}$.—On fairly steady slope rising to northwest; from 760 to 1,300 feet above sea level; part to northwest fairly steep with some rock outcrops, possible to cultivate in part; fairly gentle slopes on southeast part of fair agricultural value; soil, sandy clay, some gravel and stones; timber, well covered with hemlock, cedar, fir and some white pine up to 40 inches diameter, much brush and windfalls, young cedar and hemlock, good timber value; poor value as fruit land. Included in timber berth X.

NW. $\frac{1}{4}$.—Fairly steep slopes rising to northwest, from 1,040 to 1,500 feet and upwards above sea level; considerable rock showing; possible to cultivate in places; some fair land in southeast part; sandy loam soil, stony, humus; timber, fir and some pine and cedar up to 4 feet diameter, hemlock up to 3 feet diameter, much brush and windfall, of good timber value; poor value for agriculturé. Included in timber berth X.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Bench land, some fairly level to southeast part; slopes to northwest part fairly steep with considerable rock; from 640 to 1,390 feet above sea level; considerable part fair agricultural land; soil, sandy loam, some stones, with rock in northwest part; timber, fir and cedar, some pine up to 4 feet diameter and hemlock of

good size, brush and windfall, good timber land; fair value as fruit land. Included in timber berth X.

SEC. 28, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Fairly steep slopes rising to north; considerable rock and stones; from 1,380 to 2,000 feet and upwards above sea level, partially suitable for cultivation along southern part; rocky and rough to north; soil sandy loam and gravel, humus; timber, well covered with cedar, fir, hemlock, with a few scattered pine up to 4 feet diameter, good timber value; doubtful value as fruit land. Included in timber berth X.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Slopes rising to north from 900 to 1,130 feet above sea level; fairly steep and rocky in northerly parts; fair land along south; sandy loam soil, vegetable humus; timber, cedar, fir and hemlock of good size, brushy, good timber value; fair value as fruit land. Included in timber berth X.

SEC. 29, NE. $\frac{1}{4}$.—Fairly steep broken slopes rising to northeast, from 1,055 to 1,500 feet and upwards above sea level, possible to cultivate in part; sandy clay loam, very stony, some rock showing; well timbered with cedar and fir up to 6 feet diameter and hemlock up to 36 inches diameter, good timber value, much windfall; doubtful value as fruit land. Included in timber berth X.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Bench land on gently rolling slopes for most part; steeper and somewhat broken to east part; from 930 to 1,380 feet above sea level; sandy clay soil, very stony in places; well covered with cedar, fir and hemlock up to 6 feet diameter on east side, smaller to west, 14 inches diameter average, good timber; fair value as fruit land. Included in timber berth X.

SEC. 30, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling land on fairly gentle slope rising to northeast; from 645 to 1,460 feet above sea level; to a large extent suitable for cultivation; soil, sandy loam, humus, some stones and gravel; fairly well covered with fir, cedar and hemlock, brulé on north part, with large trees, much windfall and thick brush, up to 5 feet diameter, good timber value, smaller in southwest part; fair value as fruit land. East half included in timber berth X.

SEC. 31, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Steep, rough, broken slopes rising northeast; from 1,290 to 2,300 feet above sea level; could be cultivated in places but of very little agricultural value; considerable rock showing, and stony; soil, sandy loam, gravel and stones, humus; timber, cedar, fir, hemlock, some balsam up to 6 feet diameter, good timber value. East $\frac{1}{2}$ of northeast $\frac{1}{4}$ in timber berth 106.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Fairly steep slopes rising to northeast; from 1,090 to 2,000 feet above sea level; considerable rock showing in places, particularly to north and east; fair agricultural land in south part; a few small creeks run through; soil, sandy clay loam, gravel and stones; timber, brulé to south with large standing dry trees, much windfall and brush, cedar, fir and hemlock up to 3 feet diameter, small stuff on west part, fair timber value; of some value as fruit land; elevation rather high. East $\frac{1}{2}$ of southeast quarter in timber berth 106.

SECS. 32, 33, 34.—Rough, broken bench land and highlands, slopes rising generally in a northerly direction; from 1,190 to 2,800 feet and upwards above sea level; some deep gullies; parts of land could be cultivated, but not considered of agricultural value; a few small areas to southwest part of section 32 and to southeast of sec. 34 might be of value; sandy loam soil, rock showing in places; timber, good growth of cedar, fir, hemlock and some balsam on higher parts, where timber is of somewhat scrubby nature, fair timber value. Partly included in timber berths 106 and X.

SEC. 35.—Generally on steep broken slopes rising to northwest to mountain from 660 to 1,500 feet and upwards above sea level some small areas along south in legal subdivisions 1, 2, 3, and 4, of some agricultural value; soil, sandy loam with gravel, rock underneath; timber, hemlock and cedar and some fir up to 3 feet diameter, good timber value. In timber berth 106.

SEC. 36, NE. $\frac{1}{4}$.—Flat bench land on east side, steep mountain slopes to west; considerable good land in legal subdivisions 9 and 16; probably be flooded by dam at Stave falls; from 250 to 855 feet above sea level; two good creeks run through quarter; soil, sandy loam and black loam, rocky on slopes; timber, hemlock, cedar and some fir, part brulé southeast partially logged on lower parts, good timber; good value as fruit land. In timber berths 106.

NW. $\frac{1}{4}$.—On steep broken mountain slopes rising to northeast from 450 to 900 feet and upwards above sea level; no agricultural land; well timbered slopes, cedar and hemlock, with some cedar up to 4 feet diameter, good timber. In timber berth 106.

SE $\frac{1}{4}$.—Greater part flat bench land; some steep slopes in northwest part, from 240 to 360 feet above sea level; flooded by dam at Stave falls; good agricultural land; soil, clay loam and alluvial soil, vegetable mould; timber, good part old brulé, dry standing timber, much windfall, cedar and hemlock up to 6 feet, fair timber value; good value as fruit land. West $\frac{1}{2}$ in timber berth 106.

SW. $\frac{1}{4}$.—Flat and rolling bench land to south in legal subdivisions 3 and 4; steep, rocky mountain slopes to northwest; from 283 to 900 feet and upwards; some good agricultural land; clay loam on low lands; timber hemlock, cedar and some fir up to 7 feet diameter, good timber value; fair value as fruit land. In timber berth 106.

Tp. 17, E.C.M. *W. J. Deans, D.L.S., 1911.*

Our camping ground in this township was about 3 miles from Mission City, and was easily reached by a fairly good wagon road from that place. The country here is very rough, being broken by numerous deep ravines, and is covered with heavy timber consisting chiefly of fir, hemlock and cedar. Some of these trees are very large, one fir we measured being 11 feet in diameter. The land is well watered by numerous small streams, the largest of which is Silverdale creek with an average width of 15 feet. This creek used to contain a great many salmon, but very few of these fish are found there now. The chief industries in this vicinity are farming, fishing and lumbering. The fishing is generally carried on by those who live near the shores of the Fraser river. The fish consist mainly of salmon and sturgeon. Many of the settlers are engaged in dairy-farming whilst others devote their attention to the raising of small fruits. Cedar valley in section 32 is noted for its strawberries and there are also several fine apple orchards in this vicinity. There are no water-powers and no minerals of economic value were noticed. Deer and partridges are very numerous and pheasants were seen on several occasions.

Tp. 18, E.C.M. *A. J. Campbell, D.L.S., 1910.*

Along the west of the taken land in this township in secs. 15, 22 and 27 runs a high rocky hill. Another very high rocky hill lies in sec. 32 with steep rocky slopes falling to Stave river on the west and covering part of secs. 29 and 33 on the south and east. In sec. 18, and spreading over parts of the surrounding sections, there is another high hill with considerable rock showing, and near the centre of sec. 9 we have the summit of another. In the valleys between these hills and on some of the more gentle slopes in sec. 9 we have considerable land suitable for cultivation. The timber as a general rule is small and somewhat scrubby, averaging about 15 inches in diameter.

SEC. 4, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$; SEC. 5, NE. $\frac{1}{4}$.—Fairly steep, rolling slopes rising towards summit in sec. 9, some solid rock showing; partially suitable for cultivation, from 500 to 1,145 feet above sea level; soil, sandy with some gravel and stones; thickly covered with fir, cedar and hemlock and brush, generally small with a few scattered trees of fair size, of poor timber value; poor value as fruit land.

SEC. 5, NW. $\frac{1}{4}$, W $\frac{1}{2}$; SW. $\frac{1}{4}$.—Rolling bench lands; fairly deep gully of Silverdale creek through southwest quarter; considerable part suitable for cultivation; solid rock

showing in a few places; sandy soil, very gravelly in part; fir, cedar and hemlock bush, considerable small stuff, up to 3 feet diameter in places, of some timber value; fair value as fruit land. In timber berth 44.

SEC. 6, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land; fairly rough in part; to a large extent fair agricultural land, up to 1,000 feet above sea level; soil, sandy loam, humus; timber, fairly well covered with fir and cedar, some hemlock up to 3 feet diameter, considerable small second growth bush, of fair timber value; fair value as fruit land. Partially in timber berths 500 and 511. Squatter, B. Falconer, on north half of northwest quarter.

SEC. 7, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—High rocky hill covers half section, with steep rough slopes on west falling towards Stave river; from 600 to 1,500 feet and upwards above sea level; a number of small creeks on west; no land considered of agricultural value; covered with small second growth of fir and hemlock, with a few scattered trees of fair size.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rough rolling bench land; steep slopes to north rising from east and west to rocky hill; some areas of land along south suitable for cultivation; from 570 to 1,200 feet above sea level; sandy soil, gravel and stones; small cedar and hemlock with some fir, not of much timber value; poor value as fruit land.

SEC. 8, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Considerable flat bench land and rolling land in vicinity of creek which runs through centre of section; very steep rocky slopes in northwest rising to high rocky hill; steep slopes to east with rocky hills rising to small mountain in sec. 9; from 600 to 1,050 feet above sea level; sandy loam, gravelly in part; small area meadow land near centre of section; timber, cedar, fir, and hemlock up to 4 feet diameter, some very good timber to north part of section in valley, considerable small stuff, some brulé in rocky hills to east; good value as fruit land. Included in timber berths 44 and 319.

SEC. 9.—Covered by high hill, summit near centre of section, with slopes falling in every direction; rocky for most part; small area of fair land in northwest in legal subdivision 13 and along east range of legal subdivisions; from 665 to 2,000 feet above sea level; soil, thin layer of soil over rock, sandy clay loam in parts considered of value; hemlock and fir, with some cedar from 3 to 40 inches diameter, generally small, some good timber to west and north.

SEC. 10, NE. $\frac{1}{4}$.—On steep rocky slope rising to north, from 600 to 1,085 feet above sea level; no land of agricultural value; sandy clay soil, thin layer over rock; covered with hemlock and fir, with some cedar from 6 to 24 inches diameter, poor timber value.

NW. $\frac{1}{4}$.—Creek runs across quarter in southeasterly direction; steep rock slopes to northeast side; rolling bench land and sand on fairly gentle slopes to southwest; from 600 to 1,050 feet above sea level; land along creek and to south of fair agricultural value; sandy loam and black loam, rich in vegetable mould; hemlock and fir, with some cedar from 6 to 36 inches, of some timber value. Squatter, J. Millward.

SW. $\frac{1}{4}$.—Rolling bench land on fairly steep slopes rising to southwest; from 600 to 1,145 feet above sea level; considerable part cultivatable land; soil, sandy clay loam, some gravel in parts, vegetable humus; timber, hemlock and fir up to 24 inches and some cedar, generally small and not of great timber value.

SEC. 14, NW. $\frac{1}{4}$; SEC. 15, SE. $\frac{1}{4}$, NE. $\frac{1}{4}$.—Rough rock hills; slopes to east very steep; no land of agricultural value; timber generally small and scrubby, consisting of fir, hemlock, some cedar and pine up to 24 inches, averaging 10 inches diameter, not of much timber value.

SEC. 15, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—The greater part of half section consists of rough rocky bench land unsuited for agriculture except along west of section, particularly in southwest corner where a narrow strip of land lies which is of possible value as fruit land; soil, sandy loam, rocky; timber generally small hemlock and fir to 24 inches, average 10 inches diameter, some pine and small cedar of very little value as timber.

SEC. 16, NE $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land; slopes rising gently to northeast and southwest from valley through centre of section; considerable part of land suitable for cultivation; a number of small rocky knolls scattered over; steep rocky slopes to northeast part; soil, sandy loam and humus over gravelly subsoil; timber, hemlock and cedar, some fir up to 50 inches diameter, of good timber value; fair value as fruit land.

SEC. 17, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land; fairly level land; small rolling hills, from 500 to 735 feet above sea level; good agricultural land; rich sandy loam, humus; well covered with good growth of cedar and fir up to 4 feet diameter, average 30 inches, hemlock and brush, of good timber value; fair value as fruit land. Included in timber berth 319.

NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land along east; very steep rocky slopes on west rising to high rocky hill, from 750 to 1,500 feet and upwards above sea level; rich sandy loam, humus, sand and gravel on slopes; well covered with fir and cedar up to 4 feet diameter, average 30 inches, hemlock, of good timber value; fair value in part as fruit land. Included in timber berth 319.

SEC. 18, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—High rock hill reaching over 2,000 feet; steep slopes falling in every direction; no land considered of agricultural value; thickly covered with fir, cedar and hemlock, generally small and scrubby, not of much timber value.

NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Small area of flat land along Stave river in northwest quarter; mostly on steep slopes rising to southeast; rocky; soil, rich sandy loam and humus; timber on lower slopes large, fir and cedar up to 10 feet diameter, smaller and of scrubby nature on higher slopes, of good timber value in places.

SEC. 19, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Steady slopes rising to northeast and southeast from valley of Steelhead Creek, which runs through the north part of southeast quarter; from 300 to 785 feet above sea level; considerable part of land suitable for cultivation, though the slopes to the south are rather steep for agricultural purposes; sandy clay soil, very stony, some rock outcrops; timber, young hemlock and fir up to 8 inches, very little timber value; poor value as fruit land.

SEC. 20, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rolling bench land; gentle slopes rising to north and south from Steelhead Creek; from 500 to 950 feet above sea; considerable part suitable for cultivation; soil, sandy clay loam, stony in parts, some rock outcrops, timber generally small, hemlock and fir up to 18 inches, not valuable as timber, some cedar, maple and alder; fair value as fruit land. E. Mobbs, squatter southeast quarter.

SEC. 21, SW. $\frac{1}{4}$, N.W. $\frac{1}{4}$.—Slightly rolling bench land; small rock knolls in places; considerable part suitable for cultivation; from 560 to 900 feet above sea level; soil, sandy clay, humus; timber thickly covered with fir and hemlock to 20 inches, some cedar, maple and alder brush not of timber value; fair value as fruit land. B. Wallace, squatter on southwest $\frac{1}{4}$.

NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land with slopes rising to east; considerable rock outcrops particularly in northeast quarter, a good part of land suitable for cultivation; soil, sandy loam over rock, humus; timber, hemlock and fir, some cedar up to 24 inches diameter, maple and alder brush, not of timber value; poor value as fruit land. A. Nashner, squatter on southeast $\frac{1}{4}$.

SEC. 22, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Greater part on rock hill; very small area of land on west, of possible agricultural value; from 800 feet upwards above sea level; soil, sandy clay, humus; timber generally small fir, cedar and hemlock, brushy, not of timber value.

SEC. 22, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$; SEC. 23, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 26, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 27, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rough rocky and hilly bench land rising from 350 to 1,500 feet and upwards above sea level; very steep slopes to east; no land considered of agricultural value, timber is generally small, consisting of cedar, fir and hemlock, average size of 8 inches diameter, much brush.

SEC. 27, NW. $\frac{1}{4}$.—The greater part on rough rocky hills; creek with deep ravines across north end; small area of workable land along west boundary; from 330 to 1,200 feet above sea level; soil, sandy and stony; timber generally small fir, hemlock and some cedar, not of much timber value; some value as fruit land.

SW. $\frac{1}{4}$.—All rough rocky bench land, with fairly steep slopes rising to southeast; no land considered of value; timber generally small and scrubby nature; fir, hemlock and cedar up to 24 inches, not of much timber value.

SEC. 28, NE. $\frac{1}{4}$.—Rolling bench land; gentle slopes rising to southeast from 490 to 900 feet above sea level; a considerable part suitable for cultivation; soil sandy loam; a number of rock outcrops; some fair creeks through quarter; timber small, scrubby fir, hemlock, maple and alder brush and cedar, not of timber value; poor value as fruit land.

NW. $\frac{1}{4}$.—Bench land, rolling in part; very steep rocky slope in northwest part; from 560 to 1,400 feet above sea level; considerable sand to south and east; soil, sandy, some rock outcrops, vegetable mould; timber generally fir and hemlock and some cedar of small size up to 30 inches diameter, a little timber of value along west part; some value as fruit land.

SE. $\frac{1}{4}$.—Rolling bench land; rough, rocky slope in southeast part; considerable workable land; from 600 to 1,000 feet above sea level; sandy soil, some gravel; timber, hemlock and fir up to 18 inches, some cedar, maple and alder brush, not of timber value; poor value as fruit land.

SW. $\frac{1}{4}$.—Rolling bench land; rock knolls in places; from 600 to 835 feet above sea level; a good part workable land; soil, sandy clay loam, very stony; thickly covered with cedar, fir and hemlock, average 8 inches diameter, not of timber value; poor value as fruit land.

SEC. 29, NE. $\frac{1}{4}$, NW $\frac{1}{4}$.—On slopes of rocky mountain; steep slopes on west rising from Stave river; general slope rising to north from 830 to 1,700 feet above sea level; no land considered of value except very small area in southeast corner; of some value as fruit land; timber generally small hemlock to 8 inches diameter and some fir up to 36 inches and a very few fir to 60 inches diameter, of some timber value.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Bench land on gradual slopes rising to north, from 570 to 910 feet above sea level in part, and very stony; land considered of value to south and east, particularly in southeast quarter; soil, sandy clay, stony; timber fir, hemlock, some cedar, generally small, up to 36 inches, of some timber value; poor value as fruit land.

SEC. 30, EAST OF STAVE RIVER.—Bench land on very steep rock slopes rising from Stave river; from 230 to 1,200 feet above sea; no land considered of value; timber for most part small fir, hemlock and some cedar up to 36 inches diameter, some fair timber near river.

SEC. 31, EAST OF STAVE RIVER.—Generally steep rocky slopes rising from river, except small area of flat land lying in bend of river partially in each quarter section; from 230 to 1,200 feet above sea level; soil, rich sandy loam, vegetable humus; timber, cedar, fir and hemlock up to 4 feet diameter on flat land, smaller on slope, of some timber value, has been partially logged, will probably be flooded by dam at Stave falls.

SEC. 31, NE. $\frac{1}{4}$, WEST OF STAVE RIVER; NW. $\frac{1}{4}$, WEST OF STAVE RIVER.—All flat land, with the exception of small part on rocky hill in northwest corner; good agricultural land; rich sandy loam, some alluvial soil; well timbered with fir, hemlock and cedar, part brulé, up to 4 feet diameter, partially logged, low lands, will probably be flooded by dam at Stave falls.

SEC. 32; SEC. 33, N. $\frac{1}{2}$.—High rocky hills, summit in section 32 near centre; no land considered of value for agriculture; ranging from 300 to 2,000 feet and upwards

above sea level; timber is generally of small size, averaging 10 inches diameter, thickly covered with fir and hemlock, some cedar, maple and alder brush, of possible timber value.

SEC. 33, S. $\frac{1}{2}$.—Some workable land in legal subdivisions 1, 2 and 3, remainder on rocky slopes rising to north and west; from 490 to 1,500 feet above sea level; soil, sandy loam, rocky; timber, small fir and hemlock, some cedar, maple and alder brush, averaging 10 inches in diameter, not of much timber value; poor value as fruit land.

SEC. 34, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; SEC. 35, SW. $\frac{1}{4}$.—Rough rocky hills up to 1,200 feet above sea level; no land considered of value for agriculture; soil sandy loam, very rocky, thin layer over rock for most part; timber, small thick fir and hemlock, some cedar and maple and alder brush, up to 24 inches in places, of possible timber value.

A. Lighthall, D.L.S., 1910.—The block surveyed is situated about 8 miles north of Mission junction on the Canadian Pacific railway in British Columbia. A good wagon road extends northward from Mission junction and passes close to the corner of section 10 in township 18, providing the best means of reaching the eastern part of this district. Another wagon road farther west runs up Cedar valley, and from the end of this road a good trail has been cut to the southeastern corner of section 20, providing access to the western side of the block. As yet this trail is hardly passable for pack horses and settlers going in by this route have to pack their provisions and camping outfit. The soil throughout the most of the tract is a sandy loam with more or less gravel or boulders in it. A few of the squatters have cleared small patches and made gardens but the ground is so shaded that the gardens were not very successful. In Cedar valley, a few miles south, and on the same kind of soil the settlers have made a success of growing small fruits, and I know of no reason why the settlers in this district could not do the same as soon as the roads are made to provide facilities for marketing the produce. The land is all heavily timbered with hemlock, fir and cedar up to 3 feet in diameter. It is all second-growth, however, and there is not enough of large size to make marketable timber. Scattered among the green timber are huge dead cedars and firs which were killed probably by forest fires 75 or 100 years ago. The fir is not of much use but the dead cedar is very valuable and the settlers can derive a considerable revenue by cutting the cedar into shingle bolts and selling them. There is practically no hay nor grass in this township. The water supply is plentiful and of excellent quality. The smaller streams dry up during the summer but the larger ones contain water throughout the whole season. There are two fairly large creeks. Steel Head creek runs westerly to Stave river through sections 16, 20 and 19. Cardinal creek runs northerly through sections 28, 27 and 34 to Stave lake. These creeks vary a good deal in size during the different seasons and will probably disappear completely in the dry seasons after the land is cleared. They are, consequently, useless for generating power. They flow through rolling land with very high banks and there is no danger of flooding. The climate is very temperate, the heavy bush preventing extreme heat in summer. The winters are quite mild. The first frost came about the last of August in 1910. Fuel is very plentiful. The hemlock, cedar and fir do not make the very best fuel, but the alder and vine-maple are excellent. No coal was seen. The rock is a hard granite of no use for building and no stone-quarries have been opened up. No minerals of value were found. Bears and beavers, with a few deer, comprise the game. Black bears are numerous, but are not troublesome as they find plenty of berries for food. Judging from the amount of work done there must be many beavers in this district as every stream is dammed wherever the banks are low enough to form a pond.

W. J. Deans, D.L.S., 1911.—Section 6 is hilly at the northwest corner and level along the southern boundary. The surface is covered with a thick growth of underbrush and small trees with clumps of large fir and cedar. The soil is clay and sandy with stones and is suitable for fruit culture and farming purposes.

Tp. 19, E.C.M. *W. J. Deans, D.L.S., 1911.*

The road from Chilliwack to Sumas passes through section 1 of this township. The south boundaries of section 1, 2 and 3 are mountainous, except the south boundaries of the southeast quarter of section 1 and the southwest quarter of section 3 which are flat. The mountainous part is very rough and covered with a thick growth of fir, hemlock and cedar from 10 to 24 inches in diameter. The soil is clay and stony, and might be suitable for fruit growing.

Tp. 20, E.C.M. *W. J. Deans, D.L.S., 1911.*

This township is easily reached by steamer from New Westminster. Sections 22 and 23 are mountainous except portions along Fraser river which are level in a few places and contain small areas of agricultural land. There is some good fir and hemlock on the southern portions of these sections. Section 24 is also mountainous except the northeast quarter and some small patches along the south shore of Fraser river. The northeast quarter is level and subject to flood when the river is high. The surface is covered with cottonwood and poplar along Sumas river, and willows over the remainder. This quarter-section is suitable only for pasture land and could be used for the greater part of the year. The small patches along the river, where cultivated, produce vegetables and small fruit. The Canadian Northern railway runs through this township following the Fraser river. The settlers are engaged in dairying, raising small fruit and fishing in Fraser river.

Tp. 21, E.C.M. *A. J. Campbell, D.L.S., 1910.*

The greater part of this township is covered by high mountains broken by the valley of Suicide creek which runs through section 36 and in a southwesterly direction through the township, passing through sec. 3 at the south end. To the east of Suicide creek lies Nicomen mountain rising to a height of over 5,000 feet above sea level, having its summit in section 13 and covering the greater part of the township lying to the east of the creek. To the west of Suicide creek lies a high range of mountains running the whole length of the township and attaining a height of 3,000 feet and over. Along the western slope of this mountain range and lying in the western range of sections, there is some land adjoining the lands which have already been disposed of.

The valley of Suicide creek is extremely narrow with very steep rough slopes, rising to the mountains on either side having no land of agricultural value. These slopes are broken by the channels of many small creeks. In sections 36 and 25 along the bottom of the valley lie some small areas of land of possible value for cultivation. The lower slopes in this valley are covered with an excellent growth of timber consisting mainly of fir, hemlock and cedar of good size, with much brush. On the higher slopes the timber becomes smaller and more of a scrubby nature. On the westerly slopes in west part of township there is some fair timber but the greater part is small and of scrubby nature. There is considerable old *brulé* on this slope. Timber berths No. 501, 503, 504, and 505 take up the timber in the valley of Suicide creek.

A man pack trail runs along west side of creek the full length of the township.

SEC. 2, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Very steep slopes for most part; some land along south and east of some value for cultivation; from 30 to 1,300 feet above sea level; soil, sandy loam, stony; solid rock outcropping in places, particularly in southwest part; timber, old *brulé*, much windfall and brush, green fir, cedar and some hemlock to west part, up to 40 inches, some fair timber; fair value as fruit land.

SEC. 3, NE. $\frac{1}{4}$.—Steep rough slopes to south and west; very rocky, some fairly level bench land in northeast part; from 400 to 1,300 feet above sea level; soil, sandy loam, humus, stony; timber, *brulé* in northeast part, patches of fair timber to southeast, cedar, fir and hemlock to 30 inches diameter, maple and alder brush.

NW. $\frac{1}{4}$.—Some flat land in southwest part along Suicide creek; for most part steep, rocky slopes, unfit for cultivation; sandy loam soil, very gravelly near creek; liable to be flooded in high water on parts along creek; thinly covered with fir, some cedar and hemlock up to 40 inches, of timber value; good value as fruit land.

SEC. 4, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Steep rough rocky slopes rising to west from Suicide creek, from 30 to 500 feet and upwards above sea level; no land considered of agricultural value; soil, sandy, very stony; thinly covered with fir and cedar up to 3 feet diameter, of good timber value, brûlé with much windfall on higher slopes.

SEC. 6.—Bench land along west of section in legal subdivisions 4, 5, 12, 13, on slope rising to east; steep rocky slopes to east part rising to mountain; from 180 to 1,300 feet and upwards above sea level; soil, sandy loam, stony for most part, black loam 6 inches, humus; fairly well covered with good timber on lower slopes, cedar, fir, hemlock, maple and alder; land along west is good value as fruit land.

SEC. 7, NE. $\frac{1}{4}$.—Steep rocky slopes rising to mountain; from 500 feet and upwards; small area of land in legal subdivision 15 suitable for cultivation; soil, sandy loam, considerable stone, black loam 6 inches; fir, hemlock, maple and cedar to 24 inches diameter, of some timber value.

SW. $\frac{1}{4}$.—Steep slopes rising to east to mountain; from 330 feet upwards above sea level; some rolling bench slope on slope in west part, suitable for cultivation; soil, sandy loam, some black loam and humus on surface; timber, some fair fir, cedar and hemlock up to 24 inches diameter in places, maple and alder brush; good value in west part as fruit land.

SEC. 10.—Steep precipitous rocky slopes on either side of Suicide creek; canyon along creek; from 40 to 1,300 feet and upwards above sea level; small area of fairly level bench land in legal subdivision 1, suitable for fruit; soil, sandy loam, stony, humus; cedar, fir and hemlock timber up to 40 inches, maple and alder, good timber value, brûlé on mountain slope in northeast part.

SEC. 11.—Steep, rough, broken slopes rising to northeast to Nicomen mountain; no land considered of agricultural value; from 1,200 feet and upwards above sea level; brûlé with patches of green timber, fir, cedar, hemlock and balsam, not of timber value.

SEC. 12.—Steep rough slopes rising to northwest to Nicomen mountain; 900 feet and upwards above sea level; no land of agricultural value, brûlé with small green timber, cedar, fir, maple, birch and alder, not of timber value.

SEC. 18, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$, SEC. 19, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land on fairly steep slope on west; steep rocky slope to east rising to mountain; from 380 to 1,430 feet above sea level and upwards; rock slides on steep slopes; a small pond in northeast quarter of section 18, and southeast of section 19; steep slopes directly to east of pond; soil, sandy loam and gravel; a good creek through southeast of section 19; fir, cedar and hemlock, maple up to 24 inches, some timber value; fair value as fruit land.

SEC. 30, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$; SEC. 31, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land on slope rising to east; slope at east boundary steep and rocky, rising to mountains; from 300 to 1,100 feet above sea level; considerable part along west suitable for cultivation; soil, sandy loam, black loam and humus on surface; timber, cedar, fir, hemlock and maple to 24 inches, of some timber value; fair value as fruit land.

SEC. 25, SEC. 36.—A few small areas of bench land along bottom of Suicide Creek valley, bounded on each side by steep mountain slopes, from 900 to 1,100 feet on valley bottom; soil, rich loam, vegetable mould; well covered with fir and cedar, some hemlock up to 4 feet diameter, average 30 inches, of considerable timber value; poor value as fruit land. Included in timber berth 501.

A. Lighthall, D.L.S., 1911.—This township was reached by going north on the wagon road from Dewdney. As this township adjoins township 18, east of the Coast meridian, most of the remarks on the latter township as regards soil, timber, water,

climate, fuel, minerals and game will also apply to township 21. A creek about 20 links wide and one foot deep flows westerly through section 19. Almost on the line between sections 19 and 20 there is a fine waterfall on this creek about 60 feet high which would furnish a considerable amount of power if developed.

Tp. 22, E.C.M. *W. J. Deans, D.L.S., 1911.*

Section 19 of this township is rough and mountainous except a small portion along Sumas lake which is level. The soil on the mountainous part is clay with stones, while the portion near the lake is sandy loam and clay, and produces small fruit and vegetables. The section is well wooded with fir, hemlock, cedar in clumps, some of which is 6 feet in diameter, small birch and alder. Sumas lake abounds with fish, and in the fall, wild ducks and geese are very plentiful. The British Columbia Electric railway runs through this section along the lake shore. The settlers are engaged in small fruit cultivation and dairying, and appear to be prosperous. Sections 5 and 6 are fairly level except part of the southeast quarter of section 5 which is mountainous. The surface is covered with a growth of fir, hemlock and cedar, from 12 to 60 inches in diameter. The soil is clay with sand, and produces good crops of hay, barley, oats, vegetables and fruits, such as plums, apples, raspberries and strawberries. There are a number of squatters on these sections who seem to do very well considering their distance from a market. Section 24 lies on the south side of Cultus lake. The surface slopes south and attains a height of 600 feet above the lake, and is covered with a thick growth of fir, hemlock and cedar from 2 to 6 feet in diameter. The soil is clay and gravel and in places would produce small fruit and vegetables. The road from Chilliwack to Sumas passes through this section.

R. B. McKay, D.L.S., 1913.—The northerly portion of this township is readily reached by either the British Columbia Electric railroad or the New Westminster and Yale wagon road which is in excellent condition, both of which run diagonally across the northwest quarter of the township. The road connecting Chilliwack with Sumas, U.S., runs almost diagonally across the township from the northeast to the southwest corner and is in fair condition; this road serves as an outlet for the settlers in the southwesterly part of the township. The surface is very mountainous, but there are numerous scattered patches of good soil, consisting usually of sandy loam, which are suitable for growing fruits or vegetables. The low lands around Sumas lake which are quite frequently flooded in high-water produce large quantities of hay, while the higher or bench lands produce the finest of fruit consisting of apricots, plums, cherries, apples and pears. A large part of this township is included in a timber berth and contains large fir and cedar up to as much as 150,000 feet, b.m., per acre, and also some hemlock, alder and maple. The amount of merchantable timber is annually decreasing owing to decay, and at present the best timber is to be found in parts of sections 6, 5, 4 and 9. The settlers are engaged in raising vegetables and fruit and in dairying. There is an abundant supply of fresh water, but no water-powers are available. The climate is mild with no summer frosts. Wood is the only fuel available, there being no coal or lignite veins in the township. No stone-quarries nor minerals of economic value were seen. Duck shooting is very popular around Sumas lake. Grouse, pheasants deer and bears and some trout are found in this township.

Tp. 24, E.C.M. *G. A. Bennett, D.L.S., 1910.*

The undisposed of lands of this township are of a mountainous character. Nicomen mountain on the west and the Gooding mountains on the north reach an altitude of approximately 5,000 feet. The slopes down from these mountains are rocky and precipitous leaving few benches with sufficiently gentle slope and depth of soil to be valuable as fruit lands. The only orchard on true bench land in this township is in

section 22. Here on a nearly flat but stony bench about 200 feet above sea level, cherries, plums and apples are produced in abundance of excellent quality, much superior to those on the lower river flats. In section 21 and section 27 are similar benches which should prove valuable fruit lands.

The greater part of the township has been burnt over recently and is restocked with thickets of hemlock, fir and cedar scrub. The only valuable timber consisting of fir and cedar up to 40 inches in diameter is included in timber berth 275.

SEC. 7, L.S.'s 4, 5, 6.—Very steep easterly slope from Nicomen mountain, composed of bench land from 300 to 1,300 feet; soil, 2 to 4 inches loam over loose rock, of no value; brulé, with vine-maple and hemlock scrub, few scattered fir up to 36 inches, of little timber value.

L.S. 9.—Rolling bench land on shoulder of mountain, 800 to 1,200 feet; patches of soil from 6 to 12 inches red sand; thick vine maple and hemlock scrub in brulé; 30 per cent fruit land.

L.S.'s 10, 11.—Very steep slopes to Siwash creek, composed of bench land, from 600 to 1,200 feet; 2 to 4 inches soil over loose rock, of no agricultural value; thick vine-maple, hemlock and cedar scrub, two fir and cedar; 3 to 4 feet, to acre, of fair timber value.

L.S.'s 12, 13, 14, 15, 16.—Very steep slopes down to Siwash creek, composed of bench land, from 600 to 2,000 feet; 2 to 4 inches soil over loose rock, of no agricultural value; thick vine maple, hemlock and cedar scrub, scattered fir and cedar 3 to 4 feet, of some timber value.

SEC. 16, L.S. 11.—Steep southeasterly slope to Fraser river, composed of bench land, from 500 to 1,800 feet; small patch of 5 acres 6 to 12 inches red sand, of agricultural value; remainder consists of rocky cliffs; about 300 fir from 15 to 40 inches, of fair timber value; 15 per cent fruit land.

L.S. 12.—Very steep rocky sloping bench land; from 800 to 2,600 feet; rocky and precipitous; brulé, and scattered hemlock scrub.

L.S. 13.—Very steep rocky sloping upland, from 2,200 to 3,000 feet; brulé and scattered hemlock scrub, with a few scrubby fir, of little timber value.

L.S. 14.—Very steep, rocky, sloping bench land, from 950 to 2,500 feet; brulé, and thick hemlock scrub; few scattered fir up to 36 inches, of good timber value.

SEC. 17, L.S. 3.—Gentle southeasterly slope on shoulder of mountain, composed of bench land, 700 to 1,000 feet, with 6 to 18 inches red sand, with rocky patches; brulé, and thick scrub hemlock and vine-maple, with a few fir up to 36 inches, of fair timber value; 40 per cent fruit land.

SEC. 17, L.S.'s 4, 5, 6, 9, 10, 11.—Precipitous, rocky, sloping bench land, from 900 to 2,500 feet; very little soil over rock; hemlock scrub with few fir up to 36 inches in brulé.

L.S.'s 12, 13, 14, 15, 16.—Steep, rugged upland slopes, from 2,200 to 3,500 feet; rocky and mountainous land; small patches of scrubby hemlock and fir.

SEC. 18, SW. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Very steep sloping bench land from 1,500 to 2,500 feet, with little soil over rock; of no agricultural value; fir and cedar from 3 to 4 feet along Siwash creek, of fair timber value, but scattered in thick cedar and hemlock scrub, brulé on upper slopes.

NW. $\frac{1}{4}$.—Consists mainly of bench land, from 1,700 to 2,600 feet; very rocky and no soil for cultivation; considerable hemlock up to 36 inches, of fair timber value.

NE. $\frac{1}{4}$.—Consists mainly of upland from 2,200 to 3,800 feet; very rocky and broken by cliffs; mountainous land; few hemlock up to 36 inches, of fair timber value, large areas of scrubby hemlock and balsam of no timber value.

SEC. 19; SEC. 20, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Consists almost entirely of upland, from 2,400 to 4,000 feet; very rocky and broken by cliffs and ravines; mountainous land covered with scrubby hemlock, fir and balsam, of little timber value.

SEC. 21, L.S.'s 1, 2.—Bench land, from 370 to 990 feet, broken by ravines; soil 6 to 12 inches black loam, rocky in places, but of good agricultural value; 40 per cent fruit land; scrub hemlock and cedar thickets with few large dead fir standing.

L.S. 3.—Bench land, from 700 to 1,600 feet, cut by deep ravines, and on the west rises rapidly into a very steep rocky slope; soil 3 to 12 inches black loam along the east, getting poorer towards the north and west; of fair agricultural value; 20 per cent fruit land; thick scrub hemlock, with open spaces with nothing but old brulé.

L.S.'s 4, 5, 6, 7, 11, 14.—Steep, rocky, sloping bench land, from 800 to 2,600 feet; of no agricultural value; scrubby fir and cedar, of no timber value.

L.S. 8, 9.—Sloping bench land from 1,000 feet to 5,000 feet; soil varies from 12-inch black loam to rocky mountains on the west; of fair agricultural value; 20 per cent fruit land; fir and cedar from 20 to 30 inches, 15 to acre. Legal subdivision 9 in timber berth 275.

L.S.'s 10, 15, 16.—Bench land cut by ravines and rocky ridges, from 600 to 1,200 feet; soil very rocky and of no agricultural value except eastern half of legal subdivision 16, where soil is 6 inches loam over loose rock and value is doubtful; fir and cedar from 15 to 30 inches, 15 per acre.

L.S.'s 12, 13.—Mainly rugged upland slopes, from 1,900 to 3,000 feet; very rocky; little scrubby hemlock and fir, of no timber value.

SEC. 27, SE. $\frac{1}{4}$.—Gently sloping bench land, from 300 to 500 feet; soil 6 to 8 inches sandy gravelly loam, of good agricultural value; 60 per cent fruit land; dense thickets of alder, fir and cedar, from 2 to 8 inches, of no timber value.

SW. $\frac{1}{4}$.—Bench land from 300 to 800 feet, cut by deep ravines and rocky ridges in the northwest but nearly level on southwest; from 4 to 6 inches red sand, of fair agricultural value; 40 per cent fruit land; fir and cedar from 15 to 30 inches, 12 per acre. Timber berth 275.

NW. $\frac{1}{4}$.—Very steep, rocky, sloping bench land, from 500 to 2,200 feet, of no agricultural value; fir and hemlock up to 30 inches, of good timber value. In timber berth 275.

NE. $\frac{1}{4}$.—Very steep, rocky, sloping bench land, from 700 to 2,300 feet, of no agricultural value; fir and hemlock up to 25 inches, of fair timber value.

SEC. 28, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Consists mainly of bench land, very rugged and broken by ravines and rocky cliffs, from 500 to 2,800 feet; no agricultural value; fir and cedar up to 30 inches, with brulé to the north and west, fair timber value. Timber berth 275.

NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Entirely upland except beds of ravines; from 2,000 to 4,600 feet above sea; very rugged and mountainous; brulé, with scattered scrubby fir and hemlock.

SECS. 29, 32, 33, 34.—Very rugged and mountainous upland, from 2,200 to 4,700 feet; snow capped and very rocky; several small lakes; no land of agricultural value; scrubby fir, hemlock, and balsam, of little timber value. Includes part of timber berth 502.

SEC. 30, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Mostly upland, from 2,200 to 4,000 feet; very rocky, steep slopes, of no agricultural value; scrubby fir and balsam with some fair timber in ravines. Included in timber berth 505 (5).

SW. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Steep, rocky, sloping bench land, from 1,000 to 2,600 feet; no agricultural value; fir and cedar up to 36 inches, of fair timber value. Timber berth 505 (5).

SEC. 31, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Steep, rocky, sloping bench land, from 1,000 to 2,600 feet; no agricultural value; fir and cedar up to 36 inches, of fair timber value. Timber berth 505 (5).

SE. $\frac{1}{4}$.—Rugged, rocky upland, from 2,200 to 4,000 feet; very rocky and precipitous; scrubby fir, balsam and hemlock, of little timber value.

Tp. 25, E.C.M. *W. J. Deans, D.L.S., 1911.*

The road from Sumas to Chilliwack passes through the northwest corner of section 19. This section is rough and broken, except the northern part which is level; the southern part is about 700 feet above Cultus lake. The whole section is covered with a thick growth of fir, hemlock and cedar from 12 to 84 inches in diameter. The soil in the northern part is clay while the southern part is clay, sand and stones. The western half of the section contains some good land. The east half of section 19, section 20 and the west half of section 21 should be sold as a timber limit as they contain a large amount of cedar, fir and hemlock from 12 to 84 inches in diameter. It would be quite difficult to get the timber off as it is from 1,000 to 1,500 feet above sea-level and very rough throughout. The Lihumitson river flows through section 21 and might be utilized to float down logs from these sections. Cultus lake, situated to the west of section 19, is a fashionable summer resort, and many people from Vancouver and Chilliwack spend their summer vacation at this beautiful lake.

R. B. McKay, D.L.S., 1913.—This township is readily reached by the Cultus Lake wagon road which traverses its western boundary for a short distance near the northeasterly portion of the lake. There is also the Mount Baker wagon road which runs up the valley of the Chilliwack river and crosses the northerly portion of this township in an easterly and westerly course. Both of these roads are in good condition and afford easy access to the town of Chilliwack and the British Columbia Electric railroad. This township is mountainous and contains a considerable quantity of large fir and cedar with heavy underbrush. It is suitable for agriculture only in patches where fruit such as apples, plums and prunes and all kinds of vegetables are easily grown. The soil varies from sandy loam light and gravelly in places, to heavy clay loam with a clay subsoil. Very little hay is grown by the present few settlers who prefer to raise fruit and garden truck, which pays better. There is an abundant supply of fresh water from mountain streams which empty into either Cultus lake or the Chilliwack river which flows through the township. This river is from 150 to 200 feet wide in this township and has a depth of from 3 to 6 feet at low-water and a current of 3 miles per hour; at time of high-water it is much larger. Log jams form frequently, causing it to alter its course and make new channels, thus doing great damage to the adjoining land. There are no falls or rapids suitable for the development of power. The climate is mild with a heavy rainfall and no summer frosts occur. There are no coal or lignite veins, stone-quarries nor minerals of economic value. Grouse, pheasants, trout, bears and deer constitute the game.

Tp. 40, E.C.M. *A. J. Campbell, D.L.S., 1910.*

The part of this township lying to the east of Pitt river and remaining undisposed of is all low, flat meadow land or flooded land, and would require to be dyked before it would be of use for agriculture. Alluvial soil, rich in vegetable matter, and is covered by thick growth of rank marsh grass. Many sloughs and channels run through meadow.

The part to the west of Pitt river and remaining undisposed of is covered by a high mountain rising to a height of 3,000 feet and over, being the south end of range running along the east side of Coquitlam lake. The slopes of this mountain on the east are very steep rock generally, those to the south and west more gentle with considerable soil. Sections 29, 32 and 33 are on the higher parts of this mountain and do not contain any land considered of agricultural value. On the easterly slopes there is practically no green timber, being all *brulé* with some standing dry timber and much windfall. The westerly slopes are covered with a good growth of fir, cedar and hemlock, becoming smaller and scrubby on the higher parts and with balsam.

SEC. 11, FRAC. E. OF PITT RIVER; SECS. 12, 13, 14, 15; SEC. 22, E. OF PITT RIVER; SECS. 23, 24, 25; SEC. 26, E. OF PITT RIVER; SEC. 35, FRAC. ON ISLAND; SEC. 36, FRAC.

ON ISLAND, and E. OF PITT RIVER.—All low flat meadow land, flooded in high water, generally wet, many sloughs and channels running through; if dyked and drained would make good farming land; alluvial soil, covered with growth of rank marsh grass, no bush.

SEC. 16, L.S.'s 8, 9 and 16.—Covered by low rock hills, from 125 to 350 feet above sea level; very little land suitable for cultivation; sandy loam soil and rock; scattered fir, some hemlock and cedar up to 30 inches diameter, of some timber value. Included in timber berth 536.

L.S. 13; L.S. 14, W. $\frac{1}{2}$.—Covered for greater part by high bare rock knoll, from 275 to 830 feet above sea level; a few acres of land suitable for fruit along south and east, rich sandy loam; brulé, scattered dry standing timber, much windfall. Included in timber berth 536.

SEC. 17, L.S.'s 5 and 6; NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Rolling bench land on slope rising to north, from 210 to 1,245 feet above sea level; a few rock outcrops; a number of small creeks; good part of land suitable for cultivation; soil, sandy loam, some gravel; brulé, scattered dry standing timber and windfall; not of timber value; good value as fruit land. Included partially in timber berth 38.

SEC. 18, N.E. $\frac{1}{4}$, N.W. $\frac{1}{4}$; L.S.'s 5, 6, 7, 8.—Gentle rolling bench land on slopes rising to northeast, from 495 to 1,245 feet above sea level; soil, rich sandy clay loam, some gravel; timber, brulé, for most part, some patches of green timber to northwest, cedar, fir, hemlock and brush up to 4 feet diameter, good timber value; good value as fruit land. Included in timber berths 456 and 38.

SEC. 19, N.E. $\frac{1}{4}$, N.W. $\frac{1}{4}$, S.E. $\frac{1}{4}$, S.W. $\frac{1}{4}$.—Rolling bench land; steep slopes on east side from 715 to 2,400 feet above sea level; broken by creek gullies; considerable part of land could be cultivated, particularly on west half; soil, sandy clay loam, some gravel; well covered with good growth of cedar, fir and hemlock, balsam on higher parts up to 3 feet diameter, good timber value; fair fruit land up to 1,500 feet, above 1,500 considered high for fruit. Included in timber berth 38.

SEC. 20, N.E. $\frac{1}{4}$, N.W. $\frac{1}{4}$.—Bench land and high land; steep rocky slopes in south-east part, rising from 900 to 2,620 feet above sea level, possible to cultivate in western part, but not considered of value for agriculture; sandy soil, rocky in parts and gravelly; brulé to south and east, some dry standing timber, green timber on west and north, cedar, fir and hemlock on lower slopes up to 3 feet diameter, large balsam, some cedar and hemlock on higher slopes. Included in timber berth 38.

SEC. 20, S.E. $\frac{1}{4}$, S.W. $\frac{1}{4}$.—Bench land and steep slopes, rocky in part, rising to northwest from 510 to 2,000 feet above sea level; considerable part on west and south suitable for cultivation; sandy loam soil, gravel, stones; some solid rock on steeper slopes; brulé, dry standing timber and windfalls, not of much timber value, poor to fair value as fruit land. Included in timber berths 38 and 536.

SEC. 21, N.W. $\frac{1}{4}$.—Steep rocky slopes rising to northwest, from 760 to 2,500 feet above sea level, no land of agricultural value; brulé, dry standing timber, cedar and fir, windfall, not of much timber value.

NE. $\frac{1}{4}$.—Steep rocky slopes on west, a number of acres of fairly level land along east side from 50 to 825 feet above sea, of good agricultural value; soil, rich sandy loam, some gravel, stony on slope; brulé, scattered dry standing timber and windfall, not of much timber value; good value as fruit land. Included in timber berth 38 and 536.

SE. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Rock knoll on southwest corner, low rock hills on southeast, steep rocky slopes to northwest; considerable area of good land lying between; from 60 to 930 feet above sea level; soil, sandy loam, rocky and gravelly in part; brulé, dry standing cedar and fir, much windfall, not of much timber value; good value as fruit land. Included in timber berths 38 and 536.

SEC. 22, NE. $\frac{1}{4}$ (FRAC.), NW. $\frac{1}{4}$ (FRAC.).—Low rough rock hills along Pitt river; some fairly level bench land along west boundary, from 30 to 300 feet above sea; good agricultural land; sandy loam soil, gravelly in part; brulé, dry standing timber and windfall, some small green timber; rock quarry on Pitt river; good value as fruit land. Part included in timber berth 536.

SW. $\frac{1}{4}$ (N. $\frac{1}{2}$) (FRAC.).—Rocky hill south of large creek; some workable land, from 30 to 500 feet above sea-level; sandy clay loam, stony; brulé, scattered dry standing timber and scrubby small stuff; fair value as fruit land. Included in timber berth 536.

SEC. 27, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$.—Rough rocky hills near Pitt river, running into steep rocky slopes rising to the west to mountains, from 30 to 600 feet and upwards above sea-level; no land considered of agricultural value; brulé for most part, some patches of green fir, cedar and hemlock up to 30 inches diameter, of some timber value, partially logged. NE. $\frac{1}{4}$ in timber berth 430.

SE. $\frac{1}{4}$ (FRAC.).—Low rocky hills from 30 to 530 feet above sea-level; no land considered of agricultural value; timber has been logged off, a few scattered trees left. In timber berth 430.

SW. $\frac{1}{4}$.—Rolling hilly bench land, rocky to east part, steep rock slopes to northwest; small area of fair land to southwest part; sandy soil, stony; brulé for most part, timber has been cut off. In timber berth 430. Fair value as fruit land.

SEC. 28, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Steep rough broken slopes rising to northwest to mountain, from 825 to 1,500 feet and upwards above sea-level; no land of value; brulé for most part, patches of green timber to north and west, cedar, fir, hemlock and balsam of some timber value. Included in timber berth 38.

SE. $\frac{1}{4}$.—Steep, rough, rocky slopes generally; rising to northwest from 300 to 825 feet above sea-level; small area of land of value in legal subdivision 1; very stony; soil, clay loam, stony; brulé, scattered dry timber and windfalls, not of much timber value; fair value as fruit land. West half in timber berth 38.

SEC. 30.—Fairly steep broken slopes rising in steps to east, from 945 to 2,680 feet above sea-level; solid rock showing in ledges; considerable land on benches between steep slopes, of some agricultural value; sandy clay loam soil, some gravel and rock; well covered with a good growth of cedar, fir, hemlock and balsam up to 3 feet diameter, of good timber value, scrubby on higher parts; considered of fair value as fruit land up to 1,500 feet, farm land above 1,500 feet. Included in timber berth 38.

SEC. 31.—Steep rough bench land and highland from 1,370 to 2,680 feet and upwards above sea-level; broken by gullies, not considered of agricultural value; considerable rock showing; covered with good growth of fir, cedar up to 3 feet diameter, balsam on higher parts, of good timber value. Included in timber berth 38.

SEC. 34.—Very steep precipitous rock slopes on east, from 150 to 2,875 feet above sea-level; no land of agriculture value; brulé along east, green timber to west, cedar, fir and hemlock of some timber value.

SEC. 35 (FRAC. WEST OF SLOUGH).—Narrow strip of low swampy land along slough, averaging 600 feet in width to foot of steep precipitous rock slopes; land of some agricultural value; alluvial soil; part prairie; some small scrubby jack pine, crab apple, with some cedar and fir in clumps on flat land; brulé on slopes, some patches of green timber, southwest quarter has been logged, not of timber value.

*A. Lighthall, D.L.S., 1913.—(Partial).—*The area surveyed in this township is situated on Pitt river and is reached by boat from New Westminster. The land embraces the southern slope and a plateau on top of a range of hills approximately 3,000 feet high and bordering on Pitt river. The soil is gravelly and rocky on the lower slopes, and the cliffs are covered with a thin layer of vegetable mould which also constitutes the soil in the higher altitudes. The plateau is covered with a thin layer of moderately good soil, but no portion of the land surveyed is suitable for agriculture except a small area along the southern limit. The timber included in

the survey is of little or no value. On the slope, fire has destroyed all the marketable timber. The green timber on the plateau runs up to two and a half feet in diameter but the trees are not tall and many of them were found to be unsound. Water is plentiful at any altitude. Many small creeks, having their origin in the snows of the higher ridges, traverse the hillsides, flowing southeasterly. At the time of survey the plateau was covered with snow to a depth of from 10 to 15 feet and this snow would, no doubt, furnish water for the creeks until August. Munro creek has its origin in Munro lake, which in turn is fed by lake Dennett. These lakes, in seasons of small snowfall, do not furnish a continuous supply of water during August and September, and a dam has been built at the outlet of Munro lake. The approximate height of Munro lake above Pitt river is 2,800 feet and lake Dennett is about 400 feet above Munro lake. It would seem that about 3,000 horse-power could be developed by the construction of a dam of moderate height, as the storage basin is of considerable area. The climate is similar to that elsewhere along the coast; frosts occurred every night during the survey at the elevation of the lake. Wood for fuel is plentiful. Game appears to be quite plentiful, many deer and bear tracks being seen. No minerals of any kind were found. A large quarry is in operation, the native rock being well suited for construction purposes after being crushed.

Tps. 40 & 41, E.C.M. *A. Lighthall, D.L.S., 1910.*

These townships are situated on Pitt river, a large tidal stream navigable by steam vessels and forming the best means of reaching the northern portion of the townships. The southern part of township 40 is part of Pitt meadows—a large tract of flat land extending south to the railway. This portion is easily accessible by wagon from Westminster junction. The soil of the low land is all alluvial deposit and would make excellent hay and grain land if dyked and drained. The high land is rocky and unsuitable for agriculture. The southern half of township 40, on the western side of the Pitt river as far north as section 16, is flat, low, meadow land covered with grass. That part of township 40 which lies on the eastern side of Pitt river is nearly similar. In township 41, section 1, the southern half of section 12, the eastern half of section 2 and the eastern half of section 11 are similar to that described. The remainder of these townships is higher land, generally rocky and fairly well wooded with fir, hemlock and cedar up to 4 or 5 feet in diameter. There is an abundant supply of fresh water in both townships which are traversed by the Pitt river. This stream is from a quarter to a half mile wide and, although the effects of the tide are felt as far up as the head of Pitt lake, the salt water never comes up the river. There is a fine stream of fresh water, called Silver creek, flowing through township 41. It is about 4 chains wide at its estuary and about 50 links wide up stream, with an average depth of 2 feet. All the low land in these townships is flooded during high water and, in the settled parts, dykes and pumping plants have been erected to provide for the surplus water. The dykes require to be about 6 feet high. There are numerous falls in the small mountain streams but none large enough to develop water-power advantageously. The climate is about the same as that throughout the lower Fraser valley, being very temperate and rather wetter than the average. The winters are not very severe but a great deal of rain falls. No summer frosts occur. Wood is plentiful throughout this region but no coal nor lignite were seen. There is a large stone-quarry operated in section 22, township 40, on the western bank of the Pitt river. The rock is blasted out and crushed for concrete and paving purposes, being shipped down the river in barges to New Westminster. There is no building stone. The rock is gneissoid granite containing a considerable amount of iron pyrites. The only mineral of economic value is brick-clay. This may or may not be of good quality and would require to be tested by an expert. All the low land has a subsoil of clay and Siwash island, at the mouth of Silver creek, has a good quality of brick-clay. Ducks are very plentiful along the river; bears and deer abound on the lower slopes of the mountains and mountain goats are numerous higher up. No signs of beavers were seen although farther east, in township 18, north of Mission City, they are very numerous.

Tp. 41, E.C.M. *A. J. Campbell, D.L.S., 1910.*

This township is made up of four sections, Nos. 1, 2, 11 and 12, lying along valley of Silver creek which runs through secs. 12 and 1. Greater part of land is low, flat prairie in south part, covered with small bush in north. On the west slopes rise to high range of mountains which reach over 4,000 feet in a distance of one mile and a half. These slopes are well covered with timber.

Mention might be made here of a complaint the Indians of the Katzie Indian reservation have with regard to the settlement of this township. For many years these Indians have considered Silver creek as their own private fishing grounds and the settlement of this section deprives them of this and they seem to feel it very keenly.

SEC. 1, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Low, flat meadow land, broken by sloughs and channels; if dyked and drained would make good farm land; alluvial soil; no bush, prairie land. Squatter George Biggs, on northwest quarter; squatter George Roberts on southwest quarter.

SEC. 2, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—On steep, rough, rocky slopes, from 190 feet upwards; rising towards mountains over 4,000 feet above sea-level; no land considered of agricultural value; brûlé on south part, good timber to north, cedar and fir to 4 feet diameter, of good timber value.

SEC. 11, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—On steep, rocky slopes rising to west to high mountains, from 690 feet upwards above sea-level; no land considered of agricultural value; well covered with timber, cedar, hemlock and some fir up to 30 inches diameter, good timber value. East half included in timber berth 452.

NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—On slopes rising to west, fairly gentle along east, leaving some land considered of value, growing steep and rocky to west; from 70 to 870 feet above sea-level; sandy loam soil, humus, very stony in part; cedar and hemlock timber, some large cedar (6 inches diameter), good timber value; fair value as fruit land. Included in timber berth 66.

SEC. 12, NE. $\frac{1}{4}$.—Bench land and low flat land, slightly rolling to north, from 85 to 110 feet above sea-level; good agricultural land; soil, alluvial soil and clay loam, some gravel in parts near creeks; covered thickly with small bush, cedar, hemlock, alder and crab apple, not of timber value; good value as fruit land. Wright, squatter.

NW. $\frac{1}{4}$.—Low flat land for greater part, some land on gentle slopes to west, good agricultural land; soil, alluvial and clay loam; part prairie; small bush, crab apple, cedar, hemlock and alder, not of timber value, some timber on slope to west; good value as fruit land. Sharpe, squatter.

SW. $\frac{1}{4}$.—Low flat meadow land, nearly all prairie; some patches of brush and narrow strip of timber on slope in west part; from 70 to 100 feet above sea-level; good agricultural land; alluvial soil and sandy clay loam; some cedar and hemlock timber on west; good value as fruit land. Ross, squatter.

Tp. 42, E.C.M. *A. J. Campbell, D.L.S., 1910.*

Township consists of one range of sections, numbered 6, 7, 18, 19, 30 and 31. Sec. 6 is disposed of. Part of the remaining sections consist of meadow land, being a portion of large meadow to east of Pitt river. At the edge of this meadow land steep, rough rock slopes rise to mountain in the north and to low rock hills in the south leaving no land of agricultural value, alluvial soil on meadow.

SEC. 7.—Small area on west boundary meadow land; remainder of section rough, rocky hills rising to 835 feet above sea-level.

SEC. 18.—Tbout half of section on west meadow land; remainder of section steep, rough, rock slopes, rising to 1,150 feet above sea-level.

SEC. 19.—About three-quarters of section meadow land; remainder steep, rock slopes, rising to 1,150 feet above sea-level.

SEC. 30.—All meadow land and low marshy land except for small portion in south-east corner; rock.

SEC. 31 (FRAC.).—Low marshy land, flooded at high tide, generally covered with water.

Tp. 2, W.C.M. *W. J. Deans, D.L.S., 1911.*

Section 34 of this township was surveyed. A fine highway, known as the Yale road, which extends from New Westminster to Yale passes through the northern part of this township and directly through sec. 34, in which our work lay. The road, which is about 20 feet wide and well paved, affords a direct route across the border into the United States. It is much used by automobile drivers and, at present, the provincial government is widening it to 66 feet for their accommodation. In the northern part of the township the surface is rolling but towards the south it drops quite rapidly to the shore of the Fraser river. It is well watered by numerous small streams, in many of which the trout-fishing is excellent. Much of this township is covered with heavy timber, fir, hemlock and cedar predominating. Many of these trees are 6 feet in diameter and attain a height of 200 feet. A very profitable business in this section is that of cutting the dead and dry cedar which is used for shingles. Within a radius of 2 miles from our camp there were four of these shingle mills. The soil in this vicinity is very good, being a black loam with clay subsoil. Owing, however, to the immense size of the tree stumps, it is very difficult to clear. Once cleared, however, it will produce all kinds of vegetables and small fruits in abundance. No minerals of economic value exist and no streams that could afford water-power were noticed. Deer are very numerous and partridges, pheasants and rabbits were seen. Settlers report that black bears are very plentiful.

Tp. 38, W.C.M. *W. J. Deans, D.L.S., 1911.*

Section 10, Block 5 north of range 1, was surveyed in this township. This section lies on the south side of Fraser river and slopes sharply to the water. The surface is covered with hemlock, fir and cedar from 12 to 48 inches in diameter. The soil is either clay or sandy loam, and along the river is suitable for vegetables and small fruit. This section has been subdivided into lots and sold as an addition to Port Mann. The Great Northern railway runs along the bank of Fraser river.

Tp. 39, W.C.M. *A. J. Campbell, D.L.S., 1910.*

East half of township examined. Coquitlam river runs southerly through eastern range of sections with slopes rising to east and west. The slopes to the east on north part of township are steep and broken by gullies of small creeks. On the south part of township these slopes become more gentle and rise in steps to level bench land. The slopes to the west of Coquitlam river on the north part are fairly steep, rising to the west in steps towards a rocky mountain in secs. 27 and 34 attaining a height of 2,500 feet and upwards above sea level. Across the south part of township gentle slopes rise to the west from river in a series of level benches.

The whole half township is well covered with timber, cedar and fir principally, and is nearly all included in timber berths. On some of the timber berths near the river considerable logging has been done.

Along the west side of the river a pipe line carrying water to the city of New Westminster is laid. A much larger pipe line is being laid at present. In sec. 36 a dam is being constructed for the purpose of developing water-power.

SEC. 11, NE. $\frac{1}{4}$; SEC. 12, NW. $\frac{1}{4}$ (WEST OF COQUITLAM RIVER).—Level bench land, very gentle slopes rising to west, from 115 to 205 feet above sea-level; soil sandy, very

gravelly; timber, all been cut, some scattered fir and cedar with small jack pine, fir and cedar of no timber value; good value as fruit land. Included in timber berth 86.

SEC. 12, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$; (EAST OF COQUITLAM RIVER).—Level bench land rising in steps to east from Coquitlam river, from 115 to 395 feet above sea-level; good agricultural land; soil, sandy clay, very gravelly; timber has been cut, a few scattered trees left, very brushy; good value as fruit land. Included in timber berth 77.

SEC. 13, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$; (EAST OF COQUITLAM RIVER); SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; (EAST OF COQUITLAM RIVER).—Level bench land and rolling land rising in steps from river, from 160 to 715 feet above sea-level; steep banks a short distance from river, flat land below and fairly level above; broken by gullies of creeks; good agricultural land; soil, sandy clay, gravel, humus; covered with good growth of fir, cedar and hemlock up to 4 feet diameter, good timber, brulé in southeast part; good value as fruit land. Included in timber berth 111.

SEC. 13, NW. $\frac{1}{4}$; WEST OF RIVER, SW. $\frac{1}{4}$; WEST OF RIVER.—Rolling bench land rising to west from river, some steep slopes in north part from 200 to 610 feet above sea-level; a considerable part suitable for cultivation; soil, sandy loam, humus, stony and rocky in part; timber has been cut, some hemlock and a few fir and cedar left standing, good value as fruit land. In timber berth 111. Northwest quarter and southwest quarter leased for 40 years to Coquitlam water works..

SECS. 14, 15, 22, 23.—Rolling bench land and flat bench land rising in a northerly direction, from 175 to 2,200 feet above sea-level; a considerable part suitable for cultivation, some rock outcrops to north of secs. 21 and 23; soil, sandy loam, gravelly; timber thinly covered with large cedar, fir, hemlock and balsam, on higher part small fir and hemlock, brulé in north part of secs. 14 and 15 of some timber value, timber cut on timber berth 86; poor to good value as fruit land. Included in timber berths 86, 110, 36, 58 and 94.

SEC. 24, EAST OF COQUITLAM RIVER.—Fairly rough steep slopes, with some flat benches; strip of flat land along river rising to east from river; from 240 to 945 feet above sea-level; slopes steeper in north part; soil, sandy clay, some gravel; timber, cedar, fir and hemlock up to 4 feet, good timber value; fair to good value as fruit land. Included in timber berths 38 and 456.

SEC. 24, WEST OF COQUITLAM RIVER.—Fairly steep rough slopes rising to west from river; from 240 to 610 feet above sea-level; considerable land along river suitable for cultivation; soil, sandy loam, gravelly; timber, scattered fir, cedar and hemlock to 3 feet diameter; best part has been logged; fair value as fruit land. Included in timber berth 111.

SEC. 25, NE. $\frac{1}{4}$, NW. $\frac{1}{4}$; (EAST OF COQUITLAM RIVER).—Rough rolling bench land on steep slopes rising to east, from 370 to 1,370 feet above sea-level; generally too rough and broken by gullies of creeks; some land in southeast part suitable for cultivation; sandy soil, rocky in part; timber, fir, cedar and hemlock up to 3 feet; good timber value; poor value as fruit land. Included in timber berth 38.

SEC. 25, SE. $\frac{1}{4}$, SW. $\frac{1}{4}$; (EAST OF COQUITLAM RIVER).—Rough broken slopes rising from Coquitlam river; from 320 to 1,300 feet above sea-level; broken by gullies of creeks; bench land between creeks; some fairly level pieces to southeast suitable for cultivation; small area of land near river; sandy soil, gravelly; timber, cedar, fir, hemlock to 3 feet diameter of good timber value; fair value as fruit land. Included in timber berth 38.

SEC. 25, WEST OF COQUITLAM RIVER.—Steep slopes rising to west from river; from 320 to 750 feet above river; considerable land between foot slopes and river, and some level bench land along west boundary; sandy clay soil, gravelly rock outcropping on slopes, humus; timber, best part has been cut, small trees left; fair value as fruit land. Included in timber berth 285.

SEC. 26, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—Rolling bench land slopes rising to northwest, from 610 to 1,000 feet above sea-level, considerable part of value for cultivation; rocky in northwest part, sandy soil and clay, humus; best part of timber has been cut, small trees left; fair value as fruit land. Included in timber berth 286.

SEC. 26, NW. $\frac{1}{4}$.—Bench land on steep and rock slopes rising to northwest, from 905 to 1,140 feet and upwards; no land considered of value; timber, fairly well covered with large cedar and hemlock up to 4 feet diameter, of fair timber value.

SEC. 26, SW. $\frac{1}{4}$.—Bench land on fairly steep rough slopes rising to west, from 820 to 1,440 feet above sea-level, partially suitable for cultivation to southeast; rocky in northwest part; soil, light, sandy soil, some clay and gravel, humus; timber, some large cedar and hemlock of some timber value, small trees and brush; fair value as fruit land.

SECS. 27, 34; 35, NW. $\frac{1}{4}$, SW. $\frac{1}{4}$.—Covered by rough rocky mountains, reaching from 1,000 to 2,500 feet and upwards above sea-level, no land considered of agricultural value, fairly well covered with cedar, hemlock and some balsam of good size, of timber value.

SEC. 35, NE. $\frac{1}{4}$, SE. $\frac{1}{4}$.—For most part on steep rough slopes rising to mountains on west from 750 feet upwards above sea-level; some land along east considered of value for cultivation; soil, sandy clay loam, stony, humus; well covered with cedar, fir and hemlock. Included in timber berths 345 and 286.

A. Lighthall, D.L.S., 1911.—The survey was reached by crossing from the north arm of Burrard Inlet to Lake Buntzen. This is only a mile, and an electric tram and hoist has been installed by the British Columbia Electric Company. Camp was pitched on the shore of lake Buntzen close to sec. 28. The soil is gravelly, but too high to be suitable for agricultural purposes. The land is all heavily timbered, fir, hemlock and cedar predominating, some cedars being as large as 10 feet in diameter. Fresh water is abundant. One large creek flows westward along the northern boundary of sec. 28, and several smaller ones flow towards the south in the southern part. The first named creek averages about 30 links wide, 2 feet deep, and, as it makes a descent of nearly 2,000 feet in 2 miles, it would furnish a considerable amount of water-power. The climate is much the same as that prevailing in the rest of the valley of the Fraser river, very wet and mild. Sec. 28 being fairly high is of course colder, 3 or 4 feet of snow being found there at the time of survey in the first part of May. Wood is very plentiful for fuel, but no coal nor lignite were seen. No stone-quarries are opened here; the rock is a hard granite and unsuitable for building purposes. No minerals were found. The game found was bear and deer. Only a few traces of the former were seen, but deer appear to be quite plentiful.

APPENDIX.

WEATHER REPORTS.

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of A. J. Campbell, D.L.S.

MAY.

Day.	Place.	Altitude.	Max.	Min.	Weather.
19	Nicomen..	30	60	41	Fine.
20	"	30	83	40	Fine and warm.
21	"	30	97	44	Fine and hot.
22	"	30	93	45	"
23	Dewdney	25	81	49	Fine.
24	"	25	73	51	Rain in afternoon.
25	"	25	68	44	Rain.
26	"	25	60	46	"
27	"	25	70	47	Rain in forenoon.
28	"	25	60	48	Rain in afternoon.
29	"	25	70	50	Fair.
30	"	25	89	49	Fine.
31	"	25	86	51	"

JUNE.

1	Dewdney	25	56	50	Rain.
2	Hatzic Prairie	50	..	47	Fair.
3	"	50	70	46	"
4	"	50	86	50	Cloudy.
5	"	50	60	52	"
6	"	50	56	50	Rain.
7	"	50	55	50	Rainy.
8	"	50	66	50	Fair.
9	"	50	66	50	Fine.
10	"	50	78	55	Hot and close.
11	"	50	62	46	Rain.
12	"	50	52	46	Hot and close.
13	"	50	56	51	Cloudy.
14	"	50	63	54	Fine.
15	McConnel Creek	310	..	51	Fair.
16	"	310	66	47	Fine.
17	"	310	63	40	Rain in forenoon.
18	"	310	61	39	Fair.
19	"	310	60	42	Rain.
20	"	310	62	48	Rainy.
21	"	310	62	42	Rain.
22	"	310	68	42	Fair.
23	"	310	66	51	"
24	Stave Lake No. 1	250	..	51	Fine.
25	"	250	64	47	"
26	"	250	63	41	"
27	"	250	64	42	"
28	"	250	53	40	"
29	"	250	68	49	"
30	"	250	58	50	Fair.

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of A. J. Campbell, D.L.S.—*Continued.*

JULY.

Day.	Place.	Altitude.	Max.	Min.	Weather.
1	Stave Lake No. 1.....	250	64	50	Fair.
2	"	250	62	49	"
3	"	250	67	48	Fine.
4	"	250	69	52	"
5	"	250	69	53	"
6	"	250	70	54	Cloudy.
7	"	250	62	52	Fine.
8	"	250	75	54	"
9	"	250	82	54	Fair.
10	"	250	85	66	Fine.
11	"	250	85	66	Cloudy.
12	"	250	77	56	Fair.
13	Stave Lake No. 2.....	260	..	53	Fine.
14	"	260	69	56	Fair and windy.
15	"	260	73	53	"
16	"	260	68	53	Fair.
17	"	260	63	51	"
18	"	260	70	51	"
19	"	260	73	55	"
20	"	260	77	57	Fine and warm.
21	"	260	66	52	Showers.
22	"	260	54	52	Rain.
23	"	260	60	52	Rainy.
24	"	260	61	51	Fair.
25	Stave Lake No. 3.....	250	65	50	Cloudy.
26	"	250	66	47	Fair.
27	"	250	74	51	"
28	"	250	76	50	Fine.
29	"	250	..	..	"
30	"	250	..	..	"
31	"	250	..	..	"

AUGUST.

1					Fair.
2	Lillooet River.....	280	..	57	Fine.
3	"	280	73	56	Cloudy.
4	"	280	67	59	Fair.
5	"	280	68	55	Fine.
6	"	280	69	56	Rain.
7	"	280	70	55	Fair.
8	"	280	73	56	Fine.
9	"	280	83	53	"
10	"	280	72	52	"
11	"	280	68	54	"
12	Lillooet Lake No. 1.....	500	..	50	"
13	"	500	56	52	Rain.
14	"	500	62	52	Fair.
15	"	500	62	50	Fine.
16	"	500	71	51	"
17	"	500	75	51	"
18	"	500	78	53	"
19	"	500	77	54	Fair.
20	Lillooet Lake No. 2.....	495	..	50	Fine.
21	"	495	56	49	"
22	"	495	54	48	Rain.
23	"	495	54	41	Fair.
24	"	495	66	37	"
25	"	495	69	55	Fine.
26	"	495	56	50	Fair.
27	"	495	56	51	"
28	"	495	55	51	Rain.
29	"	495	65	49	Cloudy.
30	"	495	59	39	"
31	"	495	62	48	"

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of A. J. Campbell, D.L.S.—*Continued.*

SEPTEMBER.

Day.	Place.	Altitude.	Max.	Min.	Weather.
1	Lillooet Lake No. 2.....	495	60	53	Fair.
2	" " No. 3.....	500	—	51	Fine.
3	" "	500	66	51	Rain in afternoon.
4	" "	500	67	54	Rainy.
5	" "	500	61	51	Rainy.
6	" "	500	63	50	Cloudy.
7	" "	500	63	51	Fair.
8	" "	500	62	54	Fine.
9	Lillooet River.....	390	—	43	Fine.
10	" "	390	63	45	Fair.
11	" "	390	67	41	Fine.
12	Sec. 7, Tp. 4, R. 4.....	1680	—	51	Cloudy.
13	" "	1680	67	54	Cloudy.
14	" "	1680	64	54	Fair.
15	North Lillooet River.....	1570	57	48	Fair.
16	" "	1570	58	49	Fine.
17	Stewarts.....	—	—	44	Fine.
18	"	1570	72	47	Fine.
19	Springs, Sec. 4, Tp. 3, R. 5.....	180	—	50	Fair.
20	" " "	180	80	47	Fair.
21	" " "	180	69	55	Cloudy.
22	" " "	180	68	49	Fine.
23	" " "	189	67	42	Fine.
24	" " "	180	69	33	Fine.
25	" " "	180	70	50	Fine.
26	" " "	180	63	39	Rain.
27	" " "	180	60	52	Showers.
28	" " "	180	60	49	Rain.
29	" " "	180	62	43	Rain.
30	" " "	180	55	47	Rain.

OCTOBER.

1	Lillooet River.....	—	56	48	Rainy.
2	"	"	57	45	Rain.
3	"	"	60	45	Rain.
4	Pitt River.....	—	—	48	Rain in afternoon.
5	Pitt Lake No. 1.....	50	—	50	Cloudy.
6	"	50	57	48	Fair.
7	"	50	56	50	Fair.
8	"	50	57	48	Rain.
9	"	50	52	45	Cloudy.
10	"	50	53	44	Fair.
11	Pitt Lake No. 2.....	50	54	43	Fine.
12	"	50	59	49	Fine.
13	"	50	52	49	Fair.
14	"	50	51	49	Rain.
15	"	50	55	51	Cloudy.
16	Pitt River No. 1.....	60	—	49	Rain.
17	"	60	56	51	Cloudy.
18	"	60	65	41	Fair.
19	"	60	71	42	Fine.
20	"	60	56	39	Fair.
21	"	60	57	40	Fine.
22	"	60	58	38	Fine.
23	"	60	50	39	Rain.
24	"	60	55	38	Rain.
25	Pitt River No. 2.....	55	54	32	Fine.
26	"	55	55	31	Fine.
27	"	55	57	30	Fine.
28	"	55	56	41	Fine.
29	Simpson's S. 7, Tp. 40, E.C.M.....	100	—	38	Showers.
30	"	100	54	38	Fine.
31	"	100	52	45	Fair

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of A. J. Campbell, D.L.S.—*Concluded.*

NOVEMBER.

Date.	Place.	Altitude.	Max.	Min.	Weather.
1	Simpson's 7, 40, E.C.M.	100	50	47	Rain.
2	"	100	54	42	Cloudy and rain.
3	"	100	50	28	Fair.
4	"	100	51	30	Rain.
5	"	100	54	36	Rain.
6	"	100	53	34	Fair.
7	"	100	56	39	Fair.
8	"	100	55	35	Cloudy.
9	Sec. 11, Tp. 39, W.C.M.	175	—	34	Rainy.
10	"	175	55	36	Rainy.
11	"	175	48	39	Fair.
12	"	175	46	28	Fair.
13	"	175	45	31	Fair.
14	"	175	51	27	Fair.
15	"	175	50		Fair.

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of G. A. Bennett, D.L.S.

JUNE.

1					
2					
3					
4	Nicomén	30	79	45	Cloudy.
5	"	30	85	49	Rainy.
6	"	30	70	49	"
7	"	30	61	49	Fine.
8	"	30	73	51	"
9	"	30	71	49	"
10	"	30	80	47	"
11	"	30	93	55	Rainy.
12	"	30	75	41	Fine.
13	Harrison Bay	45			"
14	"	45	67	49	"
15	"	45	69	51	"
16	"	45	67	49	"
17	"	45	65	51	"
18	"	45	65	47	Showers.
19	"	45	58	47	Rainy.
20	Mouth of Chehalis River	45	57	46	Fine.
21	"	45	59	45	Showers.
22	"	45	71	45	"
23	"	45	65	45	Fine.
24	"	45	88	40	"
25	Forks of Chehalis River	450			"
26	"	450			"
27	"	450	70	43	"
28	"	450	68	42	"
29	"	450	62	43	"
30	"	450	72	51	"

JULY.

1	Forks of Chehalis River	450	68	41	Showers.
2	"	450	68	52	"
3	"	450	69	46	Fine.
4	"	450	71	46	"
5	"	450	73	47	"
6	"	450	71	50	"
7	"	450	80	56	"
8	"	450	76	55	"
9	"	450	76	54	"
10	"	450	92	54	"
11	"	450	99	56	"

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of G. A. Bennett, D.L.S.—*Continued.*JULY.—*Continued.*

Date.	Place.	Alt.	Max.	Min.	Weather.
12	Forks of Chehalis River.....	450	90	54	Fine.
13	"	450	81	53	"
14	"	450	68	52	"
15	"	450	77	52	"
16	"	450	74	50	"
17	"	450	77	49	Cloudy.
18	"	450	72	45	Fine.
19	"	450	79	50	Cloudy.
20	"	450	84	52	"
21	"	450	93	54	Rainy.
22	"	450	70	54	"
23	"	450	62	52	Showers.
24	"	450	68	52	Fine.
25	"	450	70	48	"
26	"	450	74	49	Cloudy.
27	"	450	70	54	Fine.
28	"	450	68	51	"
29	Morses Lake.....	45	79	.....	"
30	"	45	.....	.....	"
31	"	45	.....	.....	Cloudy.

AUGUST.

1	Morris Lake.....	45	70	49	Fine.
2	"	45	64	52	"
3	"	45	72	48	Cloudy.
4	Harrison Lake.....	45	74	.....	Fine.
5	"	45	67	56	"
6	"	45	68	56	Rainy.
7	"	45	66	53	Cloudy.
8	"	45	72	57	"
9	"	45	76	58	Fine.
10	"	45	74	56	"
11	"	45	73	55	"
12	"	45	74	52	Cloudy.
13	"	45	72	54	Fine.
14	"	45	62	54	Rainy.
15	"	45	61	52	Cloudy.
16	"	45	74	53	Fine.
17	"	45	73	53	"
18	"	45	72	54	"
19	"	45	74	55	Cloudy.
20	"	45	76	54	"
21	"	45	73	56	"
22	"	45	62	52	Rainy.
23	"	45	63	46	"
24	Silver Creek Valley.....	70	.....	.....	Fine.
25	"	70	.....	.....	Cloudy.
26	"	70	54	.....	"
27	"	70	.....	40	Rainy.
28	"	70	58	49	"
29	"	70	58	50	Showers.
30	"	70	60	50	Rainy.
31	"	70	60	50	Showers.

SEPTEMBER.

1	Silver Creek Valley	70	64	50	Fine.
2	"	70	70	48	"
3	"	70	73	52	Showers.
4	Harrison Lake near Bear Creek	42	78	54	Fine.
5	"	42	64	50	Showers.
6	"	42	.....	.....	"
7	"	42	78	46	"
8	"	42	84	44	Cloudy.
9	"	42	73	47	Fine.

TABLE of Temperatures and Weather Conditions noted in New Westminster District, 1910, to accompany report of G. A. Bennett, D.L.S.—*Concluded.*

SEPTEMBER.—*Continued.*

Date.	Place.	Altitude.	Max.	Min.	Weather.
10	Harrison Lake near Bear Creek	42	74	48	Fine.
11	" "	42	.....	.....	"
12	" "	42	85	48	"
13	" "	42	90	57	Cloudy.
14	" "	42	82	52	Fine.
15	" "	42	73	52	"
16	" "	42	62	52	"
17	" "	42	64	49	"
18	" "	42	68	54	Cloudy.
19	" "	42	.....	.....	"
20	Fraser River near Harrison Mills.....	45	80	54	Fine.
21	" "	45	65	56	"
22	" "	45	72	54	"
23	Cheam Slough.....	45	.....	.....	Cloudy.
24	Maria Slough.....	61	.....	31	Fine.
25	"	61	83	50	Showers.
26	"	61	66	46	"
26	"	61	69	46	Rainy.
28	"	61	62	48	Showers.
29	"	61	62	46	"
30	"	61	62	46	"

OCTOBER.

1	Ruby Creek on Fraser River.....	102	.....	.....	Rainy.
2	" "	102	61	46	Rainy.
3	" "	102	61	42	Rainy.
4	" "	102	52	44	Showers.
5	" "	102	56	44	Showers.
6	" "	102	60	48	Showers.
7	" "	102	60	47	Showers.
8	" "	102	60	48	Rainy.
9	" "	102	69	46	Showers.
10	" "	102	57	46	Showers.
11	" "	102	55	53	Fine.
12	" "	102	63	50	Fine.
13	Near Hope "	145	.....	.....	Cloudy.
14	" "	145	65	48	Showers.
15	" "	145	64	48	Showers.
16	" "	145	61	49	Rainy.
17	" "	145	66	48	Rainy.
18	Near Yale "	170	.....	.....	Fine.
19	" "	170	.....	.....	Fine.
20	" "	170	56	41	Fine.
21	" "	170	55	45	Fine.
22	" "	170	56	46	Showers.
23	" "	170	54	43	Rainy.
24	" "	170	53	42	Rainy.
25	Near Spuzzum "	410	54	45	Showers.
26	" "	410	.....	.....	Fine.
27	" "	410	57	25	Fine.
28	" "	410	52	27	Fine.
29	" "	410	58	26	Fine.
30	" "	410	58	32	Cloudy.
31	" "	410	57	40	Cloudy.

NOVEMBER.

1	China Bar on Fraser River.....	510	.....	.....	Showers.
2	" "	510	56	40	Fine.
3	" "	510	52	38	Fine.
4	" "	510	49	31	Fine.
5	" "	510	56	32	Rainy.
6	" "	510	48	41	Showers.
7	" "	510	50	40	Showers.
8	" "	510	52	37	Showers.

